New York Medical Times

Vol. XXIII. NEW YORK, JULY, 1895. No. 7.

ORIGINAL ARTICLES.

THE MORTALITY IN FIVE HUNDRED CASES OF ALBUMINURIA.

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WHAT is the significance of albuminuria? With view to obtain data by means of which this question may be answered, I have spent my entire leisure time during the winter looking up the present condition of 800 persons in whose urine at one time or other I had found albumin, and 300 persons in whose urine I had never found albumin.

I have succeeded thus far in tracing 558 of the albuminurics and 253 of the non-albuminurics.

The statistics of mortality among them are as follows: From January 1, 1888, to January 1, 1895, 126 out of the 558 albuminurics have died, or about 23 per cent.; 28 out of the 253 non-albuminurics are dead, or about 11 per cent.

The percentage of mortality, then, among the albuminurics is more than double that among those in whose urine albumin was not found.

The test for albumin which I have used is Ultzmann's, viz., filtering, boiling upper third, adding three to six drops of 20 per cent. acetic acid; more if the urine is alkaline, less if not.

Is the mortality among all classes of albuminurics the same? In answer to this question my statistics show the following: Albumin, *without* tube-casts of any kind (save possibly so-called mucous casts), occurred in the urine of 255 persons out of 558, and of these 255 only 37 are dead, a mortality of about 14 per cent.

In other words, the percentage of mortality among the albuminurics without tube-casts is only 3 per cent. greater than that of those in whose urine no albumin at all was found. Pus, blood, bile, prostatic and seminal fluids, leucorrhœal admixture, and 24 hours' urine, in which from decomposing mucus, micro-organisms are numerous, are doubtless factors in the albumin reaction where it is obtained without presence of casts.

So, then, the individual who rejoices that his urine is "all right," because of absence of albumin and sugar, has not such overwhelming odds in his favor, over and above him in whose urine albumin alone, without casts, is found.

What is the mortality among those in whose urine both albumin and casts are found? There were 304 such persons in all out of the 558 albuminurics, whose present condition I knew with certainty, and of the 304 89 are dead, or about 30 per cent.

In other words, where casts are found, together with albumin, the mortality is nearly three times as great as in the non-albuminuric cases, and more than twice as great as in those who have albumin without casts.

SUMMARY NO. 1. 1888–1895.

I. Non-albuminuric cases whose present condition is known with certainty	253
Deaths	28
Percentage of mortality thus far	11
II. Albuminurics without casts	255
Deaths	37
Mortality per cent. thus far	14
III. Albuminurics with casts	304
Deaths	89
Percentage of mortality thus far, about	30

What influence, if any, has the kind of casts found on the mortality? Of the 304 albuminurics with casts of all sorts 177 were those in which the casts were either hyaline or epithelial, at any rate not granular, waxy, or fatty. Of these 177 there are 36 dead, or 20 per cent. On the other hand, there were 127 persons in whose urine either granular, fatty, or waxy casts, or all three together, were found, and of these 127 there are 53 dead, a percentage of 41, the highest of all thus far recorded.

These figures would appear to show two things: First, that the occurence of albumin, together with hyaline or epithelial casts, is not without significance. The mortality in such a condition is nearly twice as great as where neither albumin nor casts are found, and nearly once and a half as great as where albumin without casts occurs. [I recall that in several fatal cases albumin and hyaline or epithelial casts would be found for months or years, then suddenly granular casts would appear, perhaps not until within a few weeks or even days before death].

Second, whatever may be the alleged clinical significance of granular casts, and whatever may be the pathological theories founded on post-mortem examination, actual statistics show the following as regards mortality from 1888 to the present time, 1895:

In 1888 I saw one such case, a woman, in whose urine at the time of menopause granular casts were found by me. She died in a few months.

In 1889, nine cases came under my observation. All were men, and four have since died. In other words, more than half are alive at the end of six years.

In 1890 there were twelve, eight men and four women. Seven have since died, or 60 per cent. Of the dead four were men, and three were women. In other words, a little more than half have died in a space of five years, and a little less than half are still living.

In 1891 I saw fourteen cases, thirteen men and one woman. Nine of them, all men have died, or

65 per cent., but one-third of the cases are still alive at the end of four years.

In 1892 the total was thirty, nineteen men and eleven women. Twelve have died, namely, seven men and five women, making a mortality thus far of 40 per cent. In other words, more than half are still alive at the end of three years.

In 1893 I saw thirty-three cases, twenty men and thirteen women. Thirteen have died, namely, seven men and six women. The mortality thus far is 40 per cent. More than half them are alive at the end of two years.

In 1894 there were twenty-eight cases, twenty-four men and four women. Seven have died up to January 1, 1895, namely, six men and one woman. The mortality thus far in these cases is 25 per cent.

According to sex the figures are as follows: Total number of men, 93; of women, 34; mortality among men, 37, or 40 per cent.; of the women 16 died, or 47 per cent.

In how many of the fatal cases were the casts waxy or fatty, and in how many granular alone?

Typical well-pronounced fatty casts in which fat droplets could be seen were found in ten of the fatal cases, waxy casts in six, casts which would ordinarily be called granular* in 44.

Finally, then, the finding of granular casts in the urine is by no means significant of rapid dissolution, not even in chronic cases, most of the cases above being of the latter variety. Five patients with granular casts are alive at the end of six years, 5 at the end of five years, 5 at the end of four years, 18 at the end of three years, 20 at the end of two years, 21 at the end of a year. Nobody knows, of course, for how long any of these have had granular casts in their urine, or at what times or under what circumstances.

Paying attention then solely to my figures and without regard to anything else whatever, if granular casts with albumen are found in the urine, the patient has three chances in four of living one year, and about one chance in two of living two to six years. In other words, about half the patients in whose urine I have found granular casts have died in periods ranging from two to six years.

It seems to me that this is a favorable showing when we consider of what dreadful portent the term "granular cast" has been in the past.

Care was taken in all these cases not to confound zoöglœa masses of bacteria, deposits of urates or phosphates, or extraneous matters of any kind with casts, and in no case were the casts called granular unless unmistakably so. In several cases, suspicious looking granular fragments or masses were encountered without the size, shape, and appearance characteristic of true renal granular casts. Such cases have not been included in the category above.

SUMMARY NO. 2.

" Albuminurics with casts	304
I. Without granular, fatty, or waxy casts	177
Deaths	36
Percentage of mortality thus far	20
II. With granular, fatty, or waxy casts	127
Deaths	53
Percentage of mortality thus far	41
III. Mortality in those of II. according to sex.	
(*a*) Total number of men	93
Deaths	37
Percentage of mortality thus far	40
(*b*) Total number of women	34
Deaths	16
Percentage of mortality thus far	47

What bearing has urea on the mortality in cases of albuminuria, together with granular, fatty or waxy casts?

Urea was estimated at one time or other in the 24 hours' urine of 28 persons who died. The smallest amount of urea in 24 hours was 90 grains (6 grammes), the largest, 415 grains (27 grammes). The average total urea in these 28 fatal cases was 210 grains (14 grammes) in 24 hours. The average total urea in 210 other cases, without albumin, casts, or sugar, was 350 grains (23 grammes). These 210 cases were picked up at random from my records, and not selected with care. In other words, the average daily excretion of urea in the 28 fatal cases of persons passing albumin and granular casts was nearly 150 grains (10 grammes) less than that of 210 persons in whose urine neither albumin, casts or sugar, was found.

Taking 310 grains of urea (20 grammes) as a basis for consideration, 66 per cent. of the 210 persons just mentioned failed to void this quantity in 24 hours, whilst 85 per cent of the 28 fatal cases did not excrete this quantity.

What relation did percentage quantity of albumin bear to the mortality in cases of albuminuria with granular casts?

Observation of the percentage quantity of albumin was made in 49 fatal cases: 21 passed enough albumin so that from the specimen furnished the coagulated mass rose to the first mark, 1, on the Esbach tube or higher, the highest being to the mark 7. In 12 cases there was enough albumin to be noticed in the Esbach tube, but it failed to rise as high as the figure 1. In 16 cases but a trace could be found with Ultzmann's test.

In other words, in less than half the fatal cases when observation of the quantity of albumin was taken, did the latter occur in quantity sufficient to attract the attention of the general practitioner, and in one-third of the cases the chances are that the presence of albumin would not have been detected at all, except by one more than ordinarily familiar with urine testing. [I base this last supposition on observation of the work of some 500 men to whom I have taught urinary analysis. It is only after a number of exercises that they can be depended on to detect what experts call a "plain trace" of albumin.]

What relation did specific gravity bear to these cases? The specific gravity of the 24 hours' urine was taken in 44 of the fatal cases. It was 1,015 or less in 21 cases, the lowest being 1,006. It was above 1,015 in 23 cases, above 1,020 in 9 cases, above 1,030 in 3 cases. In other words, while it was below 1,020 in 33 out of 44 fatal cases, or 75 per cent., it was above 1,015 in more than half the fatal cases.

* The writer is aware that many casts apparently granular, when seen with a high power, are really fatty.

What observations were made on the quantity of urine for 24 hours?

In 28 fatal cases the 24 hours' urine was collected and measured. Above 50 fl. oz. (1,500 c. c.) occurred 8 times, between 33 and 50 fl. oz. (1,000 to 1,500 c. c.) 4 times, between 17 and 33 (500 to 1,000 c. c.) 10 times, less than 1 pint (500 c. c.) 5 times. The smallest quantity observed was about 1 fluid ounce (40 c. c.) in 24 hours. So, then, 20 out of 28 in the fatal cases passed less than 3 pints (1,500 c. c.,) in 24 hours and 16 out of 28 passed less than 2 pints (1,000 c. c.).

[This is in accord with my general observations on the urine in all diseases in Chicago and vicinity. Out of 1,300 persons of all sorts, 80 per cent. voided less than 3 pints of urine in 24 hours, and nearly 50 per cent. less than a pint.]

What relation did color of the urine bear to mortality?

I have already said* that a peculiar color appearing in the urine has been observed in certain fatal cases; this color is best imitated by diluting the official solution of oxychloride of iron with water, usually about equal parts of each. This oxychloride color was observed in five cases of albuminuria with granular casts, all of which cases, I believe, were of cardiac lesion in the opinion of the attending physician, or at any rate those in which cardiac trouble was evident. I have noticed the oxychloride color twelve times in all, always in cases soon terminating fatally. I have not seen any case of this kind, however, since June, 1894.

SUMMARY NO. 3.

Fatal cases of albuminuria, with also presence of granular, fatty, or waxy casts:

I. Urea estimations in 28 fatal cases showed average 24 hours' quantity of urea to be 14 grammes (210 grains).

II. Urea estimations in 210 other cases, non-albuminuric, without casts, and non-diabetic showed average quantity of urea to be 23 grammes (350 grains).

III. Percentage quantity of albumin in 49 fatal cases:

Up to or above the first mark, 1, on Esbach tube	21
Less than up to the mark, 1, on Esbach tube.	12
Quantity too small to be measured at all, but plain trace with Ultzmann's test	16

IV. Specific gravity in 44 fatal cases:

1,015 or less	21 cases.
Above 1,015	23 "
Above 1,020	9 "
Above 1,030	3 "

V. Twenty-four hours' quantity of urine in 28 fatal cases:

Above 3 pints (1,500 c.c.)	8 cases.
Below 3 " " "	20 "
Below 2 " (1,000 c.c.)	16 "
Below 1 pint (500 c.c.)	5 "

VI. Color and appearance in 5 fatal cases was observed to be that imitated by diluting oxychloride of iron with equal parts of water.

MISCELLANEOUS QUESTIONS ON THE CASES OF ALBUMINURIA WITH GRANULAR, FATTY, OR WAXY CASTS.

1. Was urea *always* much diminished when albumin and casts were abundant?

Answer: No. In case No. 81, in which the most albumin of any was found, *e. g.*, up to the 7th mark on the Esbach tube, and in which numerous casts of various kinds, granular, fatty, and waxy, were found, three hundred grains of urea, (nearly 20 gm.), were voided in 42 ounces (1,260 c.c.) of urine. The patient died of suffocation from dropsy, without at any time showing uræmic symptoms. The analysis above mentioned was made a few weeks before death.

2. Was urea *usually* decreased, either in grains per ounce or grains per twenty-four hours in those cases in which percentage of albumin was high?

Answer: Yes, in 14 out of 18 such cases.

3. Was urea *ever* excessive in quantity in any of these cases with high percentage of albumin?

Answer: *Never* in total quantity per 24 hours. In grains per ounce (gm. per liter), it was from normal to excessive several times—three times I found it 7 or 8 grains per fluid ounce (15-17 gm. per liter), once 12 grains per ounce (25 gm. per liter), once 16 grains per ounce (34 gm. per liter) a few days before death. I have seen it 8-12 grains per ounce (17-25 gm. per liter), 24 hours before death. In Case 79, a woman who passed but one fluid ounce of urine in 24 hours (40 c. c.), I found the urea 23 grains per fluid ounce (49 gm. per liter.) She died a few days afterwards.

4. How low relatively, that is, in grains per ounce, was urea observed in cases where there was high percentage of albumin?

Answer: In 18 cases in which the percentage of albumin was high, urea occurred as low as 1 grain per fluid ounce (2 gm. per liter) once, 2 to 2½ grains per ounce several times, 4 or 5 grains per ounce several times.

5. In how many of the fatal cases was œdema or dropsy observed?

Answer: In 14.

6. In how many dyspnœa?

Answer: In 8, so far as I know.

7. In how many were cardiac lesions plainly evident?

Answer: In 9; hypertrophy 4, dilatation 3, valvular diseases 3, all three 1.

8. In how many nausea or vomiting?

Answer: 5.

9. In how many retinal troubles?

Answer: 4.

10. Were there any cases in which no symptoms were noticed other than the condition of the urine?

Answer: Yes, several. Case 52, an elderly man, was pronounced ten days before death to be without organic disease of any kind by one of the best experts in physical diagnosis whom I knew of in the United States. The urine, however, told the story: Albumin plainly present in small quantity, hyaline casts, for a week or two, followed by sudden apparition of numerous granular casts, and then death from uræmia in three or four days.

Case 28 was an old gentleman without any symptoms at all, which I can recall or have record of. I made several examinations of twenty-four hours' urine. It averaged 32 fl. oz. (960 c. c.); night urine exceeded day, specific gravity was 1,018, urea 200 grains (13 gm.) in

* *Medical Current*, p. 11, 1895.

twenty-four hours. Trace of albumin and a few granular and fatty casts. He died suddenly when apparently better, as they say, than when I saw him last.

Case 33 was another elderly man whose only symptom was nausea. This grew worse and worse until finally he could retain nothing on his stomach. His urine then was as follows: 30 fl. oz. (900 c. c.) in twenty-four hours, night volume equal to that of day, sp. gr. 1012, albumin about $\frac{1}{10}$, urea 170 grains (11 gm.) per twenty-four hours, dark granular casts in sediment. Death in a week.

11. What are apparently the most unfavorable signs shown by the urine?

Answers: (1) The oxychloride color thus far an invariably fatal sign, no recoveries; (2) the long, dark, straight granular casts, recovery in only one case thus far noted, and that not yet assured, in a boy of ten; (3) the granular casts, which with a low power seem to be of a *mouse color*, but with higher powers are seen to be fatty. I can not give exact figures in regard to these last, but do not recall any recoveries at present, and can remember several deaths.

PROPOSED CLINICAL CLASSIFICATION OF URINARY DISEASES ACCORDING TO THE CONDITION OF THE URINE DURING LIFE.

Inasmuch as our pathology bases its classifications on post-mortem examinations, and hence makes such as are not always available or practicable for clinical purposes, and, moreover, becomes involved in a terminology confusing to all learners, and impossible to many, why is it not permissible to classify urinary diseases according to the condition of the urine during life rather than that of the body after death? I would propose the following classification:

I. Cases in which neither albumin, casts, or sugar are found in the urine, but which show striking deviations from normal standards for solids, or else persistent sediments of various crystals, *e. g.*, uric acid, calcium oxalate, or the phosphates.

II. Cases in which albumen without casts and without sugar is found: these would include pus, blood, etc.

III. Cases in which albumin w out sugar but with casts is found: (*a*) albumin without granular, fatty, or waxy casts; (*b*) albumin with granular, fatty or waxy casts; (*c*) with oxychloride color, etc.

IV. Cases in which sugar is found in the urine: (*a*) sugar without polyuria; (*b*) sugar with polyuria.

Sub-classes under each general class could be made as we progress in our knowledge of urinary analysis.

Inasmuch as my figures for more than 800 cases show that the mortality differs according to class and sub-class as above given, I feel that I have a right to be heard in this matter, thus:

Class I. Mortality thus far, 11 per cent.
Class II. " " " 14 per cent.
Class III. " " " 30 per cent.
Sub-class (*a*).....20 per cent.
Sub-class (*b*).....41 per cent.
Sub-class (*c*).....100 per cent.
etc.
Class IV.* Mortality thus far 30 per cent.
Sub-class (*a*) ..... *nil.*
Sub-c'ass (*b*)..... 32 per cent. up to 1894.

A TALK WITH STUDENTS ABOUT PNEUMONIA.†

BY RICHARD N. W. K. HORNER, M.D.

GENTLEMEN: We have here to-day one or two cases of pneumonia which I will ask you to examine, while I sketch for you the principal features of the disease as met with in practice.

The name pneumonia has been objected to by some as not being expressive of the conditions existing in the lung. Pneumonitis with a qualifying word would be better. Inflammation of the lungs is expressive enough. It is an inflammation. It commences suddenly, and runs a rapid course.

The first symptom a person to be attacked by pneumonia notices is a sharp distinct chill—a chill sufficiently marked to be at once spoken of by the patient or his friends. Soon the patient complains of pain in the side, at the lower ribs. This pain is often in front and on the right side, but it may be in any location.

The temperature rises, soon to reach 105° F. This usually by the third day. Headache and pains in the limbs, back, or back of the neck, may be complained of at our first visit. The patient is very thirsty; asks for cold drinks. There is almost complete loss of appetite for food. The urine is dark and scant. The bowels may be con stipated or we may have diarrhœa.

The patient's face is dull and heavy, the cheeks red—almost maroon—rather puffy; the eyes are bright, the nostrils may dilate with each inspiration. The mouth is dry and the tongue coated; the skin is dry but not harsh and rough; the respiration is panting—that is, the patient controls both inspiration and expiration—it is rapid and short. This panting is due to the efforts on the part of the patient to control both inspiration and expiration, to nervous conditions, and to the changes going on in the lung. The nostrils dilate, especially in children. The pulse is full, soft and accelerated. It gives the full, round wave under the finger.

The normal ratio between pulse and respiration is destroyed. It may be 3 to 1, 2 to 1, almost 1 to 1 in rare cases; 3 to 1 or 2½ to 1 is quite common.

The cough, at first short and sharp and dry, soon becomes expectorative, deep and painful, lasting until expectoration is accomplished. It is a paroxysmal cough.

The expectoration is thick, heavy, tenacious and semi-transparent. The color may be clear, pinkish or yellowish. Later it may become greenish or brownish. Sometimes it is a clear red jelly-like mass, resembling fruit jelly. It

* See articles in *N. A. J. of H.*, 1895, May-July.

† Clinical lecture at the Metropolitan Hospital.

sticks to everything it touches. This tenacious or sticky quality is constant. Sometimes the expectoration is frothy in œdema.

When, then, we are called to a patient and get a history of sudden, sharp chill—pain in side—often occurring during the night, we find our patient restless, in high fever, face flushed, bright red spot on each cheek. He is breathing rapidly, careful not to go beyond the safe point for pain in either respiration or inspiration. His expression is anxious and his principal complaint pain. Then we will look for the signs of pneumonia. We may expect to find pneumonia on the two symptoms of sudden, severe chill and pain in the side.

There are other symptoms which will have to be considered, but they are not of diagnostic value. We may have diarrhœa, pains in back and limbs, nausea, perhaps bleeding at nose and other symptoms, but they will rarely be severe enough to mask the important diagnostic symptoms I have enumerated, unless, perhaps, cerebral symptoms.

I have said nothing about physical signs, for it is well to have a fair idea of our case formed from subjective symptoms before going on to get physical signs. In adults we confirm the opinion formed from subjective symptoms by the evidence obtained from physical signs, while in children it is well to go the other way 'round. If a mother says that baby has a cold and is feverish, examine the chest. If we find evidence there we can get a clear history afterward, if we wish to ask questions.

I mentioned a moment ago that cerebral symptoms might be of great importance. Cerebral or nervous symptoms may be so severe as to attract all our attention and prevent us noticing the condition of the lungs. Take, for instance, a case of acute pneumonia in a patient with an attack of delirium tremens. Even in cases of whooping cough we are easily led to change or increase our remedies for the cough or nervous paroxysm, when we should be treating the symptoms of broncho-pneumonia.

So far, I have said nothing about varieties of pneumonia. These are distinct. There is the variety known as *lobar*. This is what is usually meant when the word pneumonia is used alone. Lobular pneumonia, or broncho-pneumonia, the next variety, is very well described by its name. Lobar pneumonia commences in a center in a lobe of the lung ; spreads from this to involve the lobe. Lobular pneumonia commences in many centers, involving many lobules, through the lung. Sometimes these are principally confined to one lobe, filling a considerable extent of it. The disease then approaches more nearly lobar pneumonia. At other times the disease attacks lobules separated by healthy tissue. They may be so thoroughly separated that it will only be after a most careful examination that a diagnosis can be made. The onset of lobular pneumonia is not the same—hardly resembles the onset of lobar. There is not the sharp pain, nor is there the distinct severe chill. There may be a chill or slight rigors. The beginning of lobular pneumonia may escape notice, for it is the accompanying pneumonia of other diseases. The bronchitis of measles will become a broncho-pneumonia in many of our cases.

With cases of whooping cough we meet it frequently, and in our late epidemics of influenza, broncho-pneumonia has played a very important part. Where bronchitis has existed and broncho-pneumonia appears we find a sudden rise of a degree and a half or two degrees, restlessness, change in our patient's countenance, the face becoming red and puffy; the expression is anxious, the eyes rather bright. The breathing become more and more of panting in character. The respiratory acts are accompanied by muscular effort, the nostrils expand; the diaphragm and muscles of the parietes are called into active service. This is most noticeable in young children. The cough changes from the cough of bronchitis to a dry, hard, hacking cough. The changes in countenance, breathing and cough, added to a sudden rise of temperature, should make us look for catarrhal pneumonia.

In young children the muscular effort is so marked that the abdomen is drawn in, the chest wall lifted with each inspiration.

Catarrhal pneumonia, as well as croupous pneumonia, has three stages, but differs from the latter in having no day of crisis. It is a less violent form of the disease, and requires careful watching, for the reason that it produces serious results more quietly than does lobar pneumonia. Croupous pneumonia affects one lung usually. Catarrhal pneumonia affects both lungs.

There are some points I wish to mention about the pneumonias of children and old persons.

Old persons may have pneumonia without cough or expectoration ; some do not have pain. The chill is replaced by shivering. The rapid loss of strength is a constant sign of pneumonia in children, adults, or in the old.

In children, vomiting, diarrhœa, convulsions, with high fever, loss of strength and the muscular breathing I mentioned will mean pneumonia.

Onr cases to-day do not show us the disease in its acute stage.

This first patient I show you came to us from another hospital. There she had pleurisy. On her way to us she had a sharp chill, followed by a marked rise of temperature. The pain was intense. With her pleurisy she had pain. After the chill the pain was so violent as to be almost unbearable. We find her to-day very comfortable—no pain, no fever, the dullness on percussion nearly gone, some soft rales remain.

The interesting points of this ease are that she had pleurisy first, then pneumonia, the treatment she received to relieve the pain and the way in which the fever left her.

We do not usually have a case of this kind to treat. This pneumonia followed the pleurisy. Had there been a large effusion we would probably not have had a pneumonia. But the exposure acting on a system already weakened attacked the weak part. The pleurisy was aggravated and pneumonia set up. The intense pain suffered by this patient did not yield to methods or remedies

commonly used. Morphia, I am told, was freely used, but failed to overcome the pain. Cantharis, used in moderately large doses, conquered it, showing that cantharis is not limited in its action to membranes "below the belt."

It was simply that the pain was of a character indicating a condition to be relieved by a certain remedy, and that remedy was cantharis. I have seen cantharis relieve sharp, most intense pain as if by magic.

This case ended by crisis; that is, the fever dropped at once almost to normal. This is the favorite way for the fever to leave. And just here a word about treatment. When the crisis occurs the patient is stunned, is in a collapsed condition; this is the time we must watch for and be prepared for. We must brace our patient and enable him to react. I say it is a time for which we must be prepared. While the fever is high the patient has no appetite. We must support him, must keep him fed on nourishing liquid food, and we must be very careful to keep the digestive organs in the best possible condition. No stimulants should be given (unless in exceptional cases) until the crisis is reached. Then stimulants should be used freely enough to get a decided action. We do not want intoxication, but we do want stimulation. Then, having kept the digestive organs in good working order, they are ready when called on now to do good work.

Had you seen this patient a short time ago you would have found marked dullness over the seat of the pneumonia. You would have heard a quality of breathing to be found in this next patient showing consolidation of lung tissue. The air passing through the tubes produces a sound very much the same as we hear normally over the upper part of the trachea; the consolidated lung between the seat of sound production and the chest wall conveys the sound to the ear applied to the chest wall; so we get bronchial breathing. The consolidation is gone now and we find the soft rales of resolution and vesicular breathing.

The heart labored greatly until the consolidation began to disappear. This is to be expected in pneumonia, or in any other disease where resistance beyond the normal is offered to the supply current of blood. And let me say here that in treating we must consider that resistance is being offered, has been present for some time; the heart is over-taxed and over tired. We must first lessen the resistance as much as possible, then prop up the heart. Digitalis is useful. Keep in mind what we wish to overcome and the means will more readily suggest themselves to us.

We should have found on palpation an increase of vocal fremitus, increasing as consolidation went on and diminishing as it disappeared. The voice sounds and heart sounds would have been carried to the ear with increased intensity.

These cases sometimes have a rise of temperature at the time we look for a fall—patient is restless and chilly. This indicates that we are going to have purulent infiltration instead of resolution.

Sometimes the temperature falls and the patient is much more comfortable, but chest symptoms do not clear up rapidly; this shows that the lung has received permanent injury and will always be impaired in function.

I have already indicated what I should advise in the way of treatment.

Careful dieting in the first and second stages, support and nourishment after the crisis. The use of stimulants is in most cases demanded. We must watch the effect produced. Give enough at one dose to bring up the pulse, and do not give the next dose until it is indicated. Do not give small doses too frequently. That is a sign of nervousness and uncertainty on the part of the prescriber.

For the fever, aconite, belladonna, or whatever is most indicated. Some cases may tempt us to use antipyrine, acetanilide, phenacetine or drugs of that class, but in my experience, where a fever has to be brought down by drugs, nothing equals half a drachm of sulphate of quinine. You will bring down your fever, and that without injuring your patient, unless deafness and ringing in the ears are injuries.

Heat applied to the chest is better than cold. Cold may be used and our patient recover; heat should be used to help our patient toward recovery.

No two cases of pneumonia are identical. No two patients will be in exactly the same condition, or present exactly the same sequence of symptoms. No two patients can be treated in exactly the same way—if we conscientiously do all in our power for our patient. Routine treatment is always bad treatment, if we wish to advance in our profession and to advance our profession. Treat the patient, do not treat the name given to the disease. Remember the conditions present and the changes that will take place. Assist Nature and a large per centage of your pneumonia patients will recover. *Meddlesome treatment* is especially to be avoided; *no treatment* is better than that.

What I have said is not the whole story about pneumonia. My object has not been to give you an exhaustive account of pneumonia in all its forms; it has not been to describe all its possible freaks. It has been to give you such a description of the disease while you have cases that you may examine, that you will feel perfectly confident about making a diagnosis whenever you are called on. I hope I have accomplished that end.

CLINICAL OBSERVATION OF ANTITOXIN IN THE KOCH INSTITUTE AND HOSPITAL CHARITE, BERLIN.

BY GORE S. HARRINGTON, M.D.

SELDOM in the history of modern medicine has a remedy for the cure of a disease been presented to the medical world with so much *éclat* as the antitoxin cure for diphtheria. So much has been written in the newspapers and medical journals on the subject that there seems to be little left to be said. However, the clinical observation of the use of a remedy has always a certain amount of interest attached to it, and in

this paper we will pass over the discovery of the Klebs-Loeffler bacillus, the poisons present and active in diphtheria, and the preparation of the antitoxin, since they have doubtless been previously fully written up, and will confine ourselves to the clinical features of the remedy, as observed in the Koch Institute and the Hospital Charité, of Berlin.

In the use of the serum the amount needed naturally depends upon the purposes in view, whether immunization or cure, and in the latter case, upon the age of the child, the severity of the case and the day of the disease. For immunizing, it is the custom to inject 200 c.c. of Behring's* serum, either a No. 0 or one-third of a No. 1. This amount will protect the patient for at least two weeks, when it is wise, if still exposed to the disease, to repeat the dose. At first it was claimed that the antitoxin would exercise an immunizing influence for a much longer period, but, clinically, this has not been corroborated.

In the cases of diphtheria admitted each received an injection of from 1,000–1,500 immediately, and a portion of the membrane was removed and a culture made on blood serum for the Klebs-Loeffler bacillus. If this bacillus was present they were given on the following day a second injection of from 600–1,000, depending upon the condition of the case. Rarely was it found necessary to give a third injection.

The technique of the injection is very simple. The points usually selected for it are the sides of the abdomen and the thigh. After thoroughly cleansing the parts with soap and ether, the serum is injected just under the skin, and a piece of cotton is held in place over the puncture by strips of adhesive plaster. No local reaction follows except a little œdema and redness, which soon passes away. Cases, however, came into the hospital where the injection in the hands of the family physician had been followed by abscess, but this was attributed to improper disinfecting of the instruments and cleansing of the part. The Koch balloon syringe was the one used in the hospital because of the ease with which it was cleansed, but for the private practitioner a glass barrelled piston syringe holding 10–12 c.c. is preferable, since it is not so easily broken, and is more under the control of the operator.

After the injection the temperature may rise a degree or more and the membrane spread to some extent, but if the case runs a favorable course, the temperature steadily falls and the membrane gradually decreases until it disappears.

Local treatment is of course not excluded by the use of the serum, though none is used by Heubner, of Berlin, and Roux, of Paris, they preferring to let the patient be quiet, except when necessary to administer food. The diet is restricted to milk, either peptonized or boiled, and moderate stimulation. If the heart gives evidence of weakness the ordinary heart stimulants are used. If the temperature is high and the child restless, it is put into a hot bath (90°–100°) for five minutes, then held up by the nurse and a quart of cold water poured over its back and breast and then returned to the bath for two or three minutes, when it is taken out, wrapped in a blanket and put in bed. Beside quieting the child and reducing the temperature, this bath causes it to take several deep inspirations, which is of great advantage.

A rash resembling typical urticaria sometimes appears between the second and sixth day after the injection, but it lasts only from a few hours to a day, and requires little or no treatment, Post diphtheric sequellæ are perhaps more frequent, but a possible explanation lies in the fact that more cases recover than formerly.

When the breathing becomes labored and the child cyanotic they intubate at Charité, but at Koch's Institute they perform tracheotomy, since there they have no resident physician to remove the tube should the necessity suddenly arise.

Regarding the prognosis, Heubner, of Berlin, gives the following: *"I consider the prognosis *good* if the case is seen on the first or second day of the disease, and if the extension and thickness of the membrane is moderate, and above all, if only one spot of the palatine mucous membrane is attacked, the grandular swelling small and the general disease is recognizable only by fever without any symptom of weakness of the heart or nervous system, and the child is over four years old:

Doubtful, if the membrane is present on several spots of the palatine mucous membrane, or if the disease has attacked the nose and is progressing downwards, if the glands are swollen and painful, and if, in addition to fever, the pulse is small and frequent, the face pale and wears an anxious expression, and there is a loss of appetite, and finally, in all cases, when the child is from two to four years old:

Bad, if the membrane has extended over the palatine arch and uvula, and the bunch of glands at the angle of the lower jaw are to be felt, with loss of appetite, weakness, decided paleness and loss of strength, or the face has taken a lead-grey appearance, and if associated with high or low temperature, there is a very rapid pulse and weak heart-tones or cutaneous hemorrhage, and the voice is hoarse and husky, and finally, in every case of the disease, when the child is a suckling."

This, like all classifications, omits some things, but it inclueds nearly all the conditions to be met with, and is, moreover, simple.

In the treatment of diphtheria by this method one must watch the further development of the membrane and the glandular swelling, the temperature curve, the condition of the urine, the pulse, the heart-dullness and heart sounds. Statistics as to the results of the treatment are as yet hard to obtain. The death rate in the Berlin hospitals is certainly not more than from ten to fifteen

* Under Behring's direction, the serum is prepared in four strengths, according to the number of antitoxic units it contains. No. 0 (yellow label), intended for immunization, contains 200 antitoxic units in ten c.c. of serum; No. 1 (green label) contains 600; No. 2 (white label) about 1,000, and No. 3 (red label) about 1,500.

* *Deutsche Medicinische Wochenschrift*, No. 36, 1894.

per cent., while Heubner claims a mortality of less than ten per cent.

Finally, the treatment has a property which is of great practical importance to the practitioner, namely, its harmlessness. As a proof of this I will cite the experience of Charité. In several instances cases of diphtheria have slipped in the children's general wards, where there were a number of children suffering from and just recovering from other diseases, and of course of lowered vitality and resistance. They all received the immunization dose, and in no case was it followed by any deleterious effects.

THE INFLUENCE OF MENTAL DEPRESSION IN CREATING DISEASE.

BY W. THORNTON PARKER, M.D., GROVELAND, MASS.

A VERY valuable communication by Dr. Joseph Edwards on the nervous system and disease has been published in the February number of *The Annals of Hygiene.*

"Any physician will tell you that a sound nervous system will help its possessor to withstand the inroads of disease of any kind, and years of experience have convinced me that, no matter what disease I may have to contend with, my results have always been the best when I have directed my efforts to sustaining and building up the nervous system, thus increasing the amount and improving the quality of the nervous force that it generates."

Dr. Edwards has shown very conclusively in his article how important it is to maintain the health of the nervous system. To quote again: "The human body is a collection of organic matter; the lungs, heart, kidneys, liver, stomach, bowels, spleen, pancreas, all the parts and organs of the body are collections of organic matter; they are all essential to life and health, but not one of them possesses in itself the power of life. Life resides in the nervous system; every part and every organ of the body is supplied with nerves; the nerves are but transmitting wires, so to speak.

"Nervous force is life; nervous force is generated in the nervous centers, in the brain, the spinal cord, and the nervous ganglia scattered everywhere throughout the body. Every organ may be healthy, but if there be not a bountiful supply of nervous force of good quality, none of the vital functions will be properly performed, *including the function of resistance to disease.*"

These facts, although so well-known to medical men, are frequently lost sight of. It is, however, generally known in a vague sort of way that worry kills. The pain of worry is greater than any physical suffering. Nervous suffering, through mental worry, not only interferes with our ability to resist disease, but is a powerful incentive to disease. Modern life is the school for worry. The tasks set before us are so difficult, and the requirements of life are so enslaving, that we weary early in the day of our labor, and fain would sleep to shut from our eyes the difficulties of our environment.

Our own troubles are sufficiently irksome, but we are constantly running across the ignorance, folly, or wickedness of those about us. We are beset, hindered, and baffled with the crude ideas existing.

Popular idea seems to imagine that the present, with all its wonderful achievements, is well on the road to perfection, and yet human life, in spite of the great inventions concerning steam, electricity, etc., is very young. We are still ignorant of the laws of hygiene, and we are undertaking projects beyond our ability. The human organization is not sufficiently strong to endure the responsibility placed on it. The result must necessarily terminate in disaster. Nervous exhaustion is peculiarly an American disease, and we may say the same of mental depression, not the morbidness associated with chronic dyspepsia, but down right, unmitigated mental despair. One of the maddest phases of modern life is the craze among women for what is termed "the higher life," but which is more readily understood under the homelier title of discontent. Foreigners arrive here who for generations have been serving people, but they wish their sons and daughters to be ladies and "gents." They are above housework, ther wish to be salesladies, typewriters, etc. This strikes a blow at the very root of home life, and makes housekeeping, even for the best of wives, a perpetual torment.

On the other hand, women of good family scorn the annoyance of housekeeping, childbearing, etc., and devote more time than is right or reasonable to attending college, lectures, etc. Although the learned professions are over-filled with well educated, active men, women are everywhere longing to emancipate themselves, and become doctors, lawyers, preachers, etc. The nursery is given in charge of ignorant, and oftentimes diseased domestics. We see "ladies" riding about in carriages with their dogs, while their puny, sickly offspring are in some back alley with a servant. The wife is absent addressing some temperance or reform meeting, while her husband is getting on as best he may in a deserted home, with poor food and uncomfortable surroundings.

This is not an overdrawn picture; as physician, I have witnessed it time and again, for it is in just such families the medical man finds plenty to do. The injury unrestrained tends, not only to the destruction of home, but of life itself; it is unnatural, morbid, unpardonable; it is absolutely at variance with the customs existing in the homes of our fathers; it is a miserable montrosity, which has grown and thrived in all its hideousness within the past twenty years.

In my morning newspaper, an editorial asks, "Why a foreign lady, like Lady S——, possessed of great landed estates in England, and living in a gorgeous castle, should invade Rhode Island to instruct the plain people there how to run their affairs." There are countless "ladies" in England, New England, and to some extent in the Middle States, who are determined to be reformers; their housekeeping duties are so light as to allow many hours of idleness; they cannot and

will not work, and therefore assume this more agreeable task of meddling with other people's affairs. Whatever may be the popularity of these movements, the woman's legitimate sphere is home, and if, for any reason, domestic cares are distasteful to her, she should endeavor to educate other women in a normal domestic life. As a physician, I am constantly meeting with women who seem to long to unsex themselves; they do not wish to be subjected to what they call the slavery of womanly functions. If they marry, they use every possible means to prevent conception; and if, by any accident, they become pregnant, they desire the destruction of their fœtuses. We have already enumerated enough reasons to demonstrate why discontent, suffering, divorce, shame and death are so common.

We can add that it requires a very limited acquaintance with college students and professional young men, to discover that by reason of the fashionable, abnormal, but hot-house growth of our young ladies, comparatively few young men are willing to assume marriage.

The modern girl is so luxuriously clothed and housed that young men are forced to wait through their best years before they are able to marry; and if they do marry, we have drawn the picture of the domestic bliss they may expect.

To keep up a brave heart under the existing fin-de-siécle conditions, requires an amount of self-control which few men possess. The strain or nervous tension which men endure while endeavoring to keep their place in the world is too much. Worry shows itself as the cause of many of the common ailments. The relation of nervous strain to derangements is very generally accepted. We have as a result many cases of neurasthenia, diseases of the heart, etc. La grippe, pneumonia, find easy victims among our overworked people.

In this age, even the children have no youth; worry seems to receive the child when it is born, and to remain a hideous, unwelcome companion to the hour of death. We are confronted with the terrible question, "Is there balm in Gilead" for our National unrest, worry and trouble?

We do not find the remedy in religion, for the churches are in the same condition, from pastor to sexton. We do not find it amongst the unselfish. No profession or calling seems to be exempt from it; it is everywhere. In the departments of Government, in the army, navy, in every calling and trade, in the employers and in the employed; even the foreigners lately arrived in this country seem to acquire the National misfortune rapidly. True it is, that man is born to trouble as the sparks fly upward, but there is something absolutely abnormal in our National characteristics.

It is equally true that there was less of this before the war, and also when our fathers were young.

The condition is rapidly approaching a crisis; some very serious remedy will be required to cure the disease. It will be well for our hygienists and philanthropists to make this condition a subject of careful study and investigation. He who can solve the problem, will be in truth a National benefactor.

EROTOMANIA—ITS PHYSICAL FORCES.

(Continued.)

By James A. Carmichael, M.D., New York.

IN the continuation of our purpose of localizing as closely and distinctly as possible, and as far as our limited knowledge, and whatever of scientific deduction our ingenuity and perhaps, rash and adventurous speculations, may suggest, our next step must be taken with the view of determining a specific localization for what may be called the generative centers, beginning at the medulla oblongata and proceeding thence downward through the whole length of the spinal cord to its termination in the "filum terminale." Our reader will remember that we have, time and again, in our discussion of nervous matter, called attention to that one cardinal fact in the organization of the nervous system of the human body which is designated by the term continuity. That, in other words, the body is enmeshed in nervous matter, to which, to all intents and purposes, there is neither beginning nor ending.

It is by this fact of continuity that every minutest portion of the body is held in close association with every other minutest portion, and thus an unbroken unity and community of sensation, motive force, perception, sensibility and every other faculty, property and power of which the living creature is possessed, is the result of the individual and collective operation or operations of the one great force called nervous matter, and its product, nerve force. In our pursuit of the physical forces of erotomania we have already considered the important and indispensable contribution to them proceeding from the cortex of the brain, and which constitutes the mental, intellectual, ideal, emotional and psychic forces, manifesting themselves through the instrumentality of the passions, emotions and affections in their normal or natural functional operations, and also in their perverted and unnatural forms. The next succeeding force to which we venture to apply the term erotogenerative, and which we equally venture to localize in the medulla oblongata is, by the inflexible law of continuity, held in close and uninterrupted continuity with the cortex of the brain, and so becomes another medium for the transmission of forces and influences generated by the cortex, and disseminated thence to be felt and responded to by the whole organism.

When we consider the intense and subtle vitality of the medulla oblongata, the most intense and subtle in the whole body, it is easy to understand that it must exercise a force to the magnitude of which it is difficult to apply an adequate name. We know how easy it is to extinguish life in a living animal by destroying the medulla oblongata, though every other part and portion of the body may be intact and whole. The merest tyro in physiology knows its supreme control over the organs of the body, without whose constant and unceasing functional operations there can be no such thing as life. The question might be asked, What have the functional operations of the medulla oblongata to do

with erotomaniac manifestations? To give an adequate reply would involve the physiological consideration of the history of each one of the great nerves born in it, and that are emissaries of its vital force and of its influences upon the great organs that keep life living. The term medulla oblongata—prolonged marrow—of itself signifies that it is the continuation downward of the brain itself, so to speak, only in a more concentrated and compact form, and by the radiating fibers from the corona radiata of the cortex, the crura cerebri and the pedunculi of the cerebrum and cerebellum, a perfectly continuous and unbroken association is maintained with all portions of the encephalon. From these facts it will readily be seen that cortical, cerebral and cerebellar impulses, whether mental, emotional, psychic or others, easily find an unobstructed path through the medulla oblongata and its great afferent nerves, by which their operations are made to reach and affect, directly and indirectly, the whole organism to its remotest points.

It is by the action of these influences that erotomaniac sympathies make themselves seen and felt, and the warm and comforting glow of love and affection in their normal and natural manifestations, on the one hand, and the wild, reckless and unreasoning forces of passion, and the still more degrading impulses of sexual and sensual appetites and desires on the other, find their way from cortex onward through the medulla oblongata, the first, as we believe, of the generative centers, after leaving the encephalon, and erotomania holds possession and control. It would be both natural and appropriate to make just here a point of departure from the other generative centers of the spinal cord, and trace the close relations and associations that exist between the cortex of the brain and the reproductive organs. But we prefer to consider and distinctly localize, if we can, the other generative centers that exist in the spinal cord, and to put a finger upon them as we pass along down the cord to its end. We are not quite sure of the appropriateness of the term generative as applied to the localities whence proceed the forces that act upon the organs of reproduction. The term erotogenic seems to be more expressive of the fact of the existence of the power that resides in these centers, a power that begets and impels sexual, sensual and erotic impulses, while the expression generative applies more particularly to the effects produced by those impulses and their result of reproduction. The records of physiology indicate but few erotogenic centers—erection centers, as they are called. They are those of Budge, "genito-spinal, opposite the fourth lumbar vertebra;" of Eckhard and Goltz, midway between the brain and the genital organs, the "nervi erigentes" of Eckhard, embodied in the first three sacral nerves, which exert an inhibitory action upon the corpora cavernosa, and thus permit their spaces to fill with blood.

These are the principal and special erotogenic local centers afforded by modern physiological records, and, as declared, they exercise both excitant and inhibitory influences upon the brain, reflex, and upon the organs of generation, direct. Then, of course, the reflex irritations proceeding from the genital organs themselves and their annexæ, and their reflected action upon "the central and highest portion of the sexual mechanism," as declared by Von Krafft-Ebbing. We venture to suggest, just here, that the sympathetic and its ganglia, great and small, exercise a powerful erotogenic force, and we look in vain for some expression of this force, or, more properly, these forces, in the physiological history of the nervous system, especially this great ganglionic system. The student of physiology well knows that the knowledge of the mysterious vaso-motor and vaso-inhibitory powers of the sympathetic nerve and its ganglia is but of comparatively recent date, as also its controlling influence upon the non-striated involuntary muscles enveloping the vital organs, and its other various powers, all of which are well-known to him and need not be repeated here.

But there is one prominent fact in the anatomical and physiological history of the great sympathetic that bears, as we think, directly upon the subject under our present consideration, and by which we may hope to find a clue to some of the phenomena of erotomania that otherwise remain obscure and difficult of solution. We allude to the innumerable connections that exist here, there and everywhere, between the ganglia of this great nervous force and the nerves coming from the cerebro-spinal axis.

Let us particularize a few, and explain, if we can, how these associations affect the phenomena of erotomania. Take, for example, one of the powers of the sense of smell, of which there are three, an olfactory trinity, which designation the reader of our argument upon the nervous matter of the special senses will remember. This one element of the trinity is derived from a ganglion of the sympathetic chain of ganglia, viz., the ganglion of Meckelspheno-palatine—and we declared our belief that it bestowed upon the olfactory sense a mysterious and subtle force—call it emotional or sympathetic, if you like—by which intense emotional impulses are immediately aroused by an odor or some specific fragrance or voluptuous intoxicant, and at once erotomaniac suggestions spring into life with subsequent effects, passive and normal, or active and irresistible in their sexual and libidinous tendencies. So it is with the ganglionic influences of the ophthalmic ganglion upon the optic sense. The heart beats and thrills with quickened pulse, the breath comes short and fast as the eye follows a vision of beauty, and a longing for possession may develop conjugal love and affection, or arouse all the fierce and compelling forces of erotomania. And now, let us pass down along the ganglionic chain, and we see bodies of gray matter—"petits cerveaux"—little brains, as designated by Winslow, increasing in size, sending off their tenacula or feelers for association with the spinal nerves, and through them with brain, medulla oblongata, the myelline substance matter of the cord, its erotogenic centers, its cells of sensation and motion, with their propulsive and inhibitory, and the re-

flex and excito-motor influences which they so abundantly possess. Thus is every ganglion of the whole sympathetic chain in close relationship with the cerebro-spinal axis and with its nerves, the agents of transmission of the forces generated by it from cortex downward. Now let us look at the ganglia connected with those organs that are more directly involved in the evolution of erotogenic and erotomaniac manifestations. We are taught by the anatomy of the female organs of generation that the uterus is abundantly supplied with nervous plexuses which irradiate ganglionic sensory and motor forces, including also the tropic and specific vaso-motor attributes of the great ganglio-sympathetic power. Why is Nature so generous in this contribution of nervous matter to the uterus and its annexæ? It is easy to ask questions, but not always so easy to answer them. When Bartimaeus that was blind, and restored to sight by the divine power, was asked for a reason for his faith in the power that had healed him, he replied: "I know not; but this one thing I know, that whereas I was blind, now I see." So we may say that this we know, that the uterus is the home wherein a human soul and its enveloping body are created, dwell for a time, and then are projected into independent existence. To create and preserve that body, the materials necessary for its beginning, growth, development and maturity must be supplied unceasingly, and no living force is more energetic and effective in maintaining the supply than that which emanates from the vital powers of nervous matter. But this is not all, and does not include all that is bestowed by the nervous matter of the uterus and its annexæ. The interblending of the maternal and conjugal instinct are among its reflexes.

The mental, moral and emotional impulses springing from the love of the mother for her child, and for the other author of its being, are due to the operations of the mysterious force within her that has been set in motion, and that now vibrates throughout her body from uterus to cortex, and animates her maternity with perhaps the most vivid and permanent emotions and affections of which the human mind and heart are capable. But now "look on this picture and on this." Reviewing the history of human life in a general way, and taking account of the forces, intellectual, moral, emotional and physical, by which it is swayed and impelled, there would seem to be a tendency to periodicity in the activity and energy of those forces for a time, to be followed by their relaxation and subsidence. In this respect there is a strange similarity between life in its intellectual and moral conditions, and those that affect the physical body. The history of disease and its phenomena teaches us that there are periods which have been affixed by science to their characteristic manifestations, and the physician speaks of an attack of disease, of its exacerbation or increase, its culmination, its decline and its resolution, or finally, its fatal termination.

The history of crime shows a like curious tendency to periodicity, and it is a common experience to witness the breaking out of what would seem to be a carnival of crime, to be followed by an interval of general quietude and peace, until the revolution of time shall offer occasion provocative and stimulative of its renewal. We are led to these reflections by the revelations but recently put in view of the public eye, and submitted to public judgment for its suggestions as to the best and most efficient way to stamp out and eradicate a growing evil whose enormity must shock the bluntest and most unimpressible sensibility. We have already told the repulsive story that has come to us from the Babylon over the water, and how its social world has been moved to its center at sight of the moral turpitude that pollutes its high places and defiles the representatives of its names, long known and honored among the centuries past and gone. But it concerns us more to know that, like the infection and contagion that breed disease, the deadly moral miasm has swooped down upon us, and the Anglo-Saxon is not alone in his base depravity, but the poison flows through kindred blood here too!

CASE FOR DIAGNOSIS.*

By Thos. P. Satterthwaite, M.D., Louisville, Ky.

THIS man, negro, æt. about thirty-four years, came before the Pension Board several weeks ago, and I thought the case of sufficient interest to bring him before you. He was supposed to be a malingerer, and I do not take any credit upon myself, but I took the opposite view, and other gentlemen who have examined him since have agreed with me.

The history is that he was out west in the Indian war service; that he fell off from a caisson several years ago and was given a furlough about two months afterward. When I examined him first, about six weeks ago, his condition was such that the perspiration, during the examination, stood out in large drops all over his body. The correct and a detailed antecedent history could not be obtained. I simply wrote the Department at Washington giving result of my examination, which was about the same as we have conducted before you. About the only difference I can see in his condition is that the profuse perspiration at the former examination is entirely absent now. This one feature led us to make a more close and rigid inspection of the patient. We extended the examination fully half an hour. In giving a detailed description of the examination to the War Department, I closed by saying that I believed there was unquestionably some spinal irritation to account for the intense hyperæsthesia, but otherwise would not attempt a diagnosis.

Dr. J. B. Marvin: The case is so difficult to examine, that we might arrive at almost any kind of a conclusion. It looks to me as if the condition of hyperæsthesia was very much overdone. He does not present the symptoms that he ought

* Stenographically reported to the Louisville Clinical Society by C. C. Mapes.

to have. I am extremely skeptical about the so-called concussion of the spine. The book written by Erichsen on that subject has done an immense amount of harm in my opinion. The work by Page, written for the purpose of offsetting the deductions drawn by Erichsen, is rather from the standpoint of corporations, I think, because it goes to the other extreme. So it is a difficult matter to sail between this Scylla and Charybdis. Unquestionably people may get falls and sustain blows, etc., which will produce what we call congestion or concussion of the spine. Characteristic symptoms of this condition ought to come on immediately after the injury, and they will take all sorts of shapes and give rise to a multiplicity of symptoms, very much like this man has; but, on the other hand, hysteria can simulate so many things, and if there is an object in view, especially a pecuniary one, some people, particularly those of a nervous temperament and hysterical subjects, seem to have the faculty of exhibiting all sorts of simulative spinal symptoms. I do not see how a simple shaking-up could produce what is called concussion of the spine without there being some organic lesion following, generally in the shape of rupture of a blood vessel, or damage to some motor cells or sensory cells, or in all probability both, and that would be followed by not only motor but sensory disturbances. So whenever they talk to me about concussion of the spine from an injury like this man claims to have sustained, or from a railroad injury, I think there must be something more than simply a shaking-up. There must be some organic lesion.

Another suggestion would be chronic spinal meningitis, but the man has never complained of any pain or other characteristic symptoms of this trouble; again, in the length of time which has elapsed since receipt of the injury, several years, as I understand, if the trouble were meningitis, it seems to me that in addition to sensory manifestations there ought to be some marked motor disturbances. The man has not complained of any interference with motion, and he now has better motion of the arms than you would imagine he could possibly have from the way he acts when you touch him about the spine.

The condition of anæsthesia of the right leg below the knee and in the foot, and an area over the right shoulder, with the opposite condition of the left side, the increased nervous or sensible hyperæsthesia, can easily be explained on the ground of an hysterical condition, with absence of any organic lesion. I must admit, however, that at first sight it would appear there must be some organic lesion. Hemianæsthesia is a very common condition in those cases we call hysterical; further than that I would not like to venture an opinion. However, I would like to see this patient when he was not being watched. He has good muscles; there is not the slightest evidence of wasting, and if it were a question of organic lesion, in this length of time there should have been some atrophy. He has every power, as far as I am able to ascertain, and the only symptoms are those referred to the spine. He has not the girdle sensation that we would expect to find in such cases.

Dr. Carl Weidner: The diagnosis in my opinion hinges upon two points, either a traumatic hysteria, or a localized meningitis affecting simply the posterior region. I find it very difficult to come to any conclusion, never having seen a case just like this, and so puzzling in every respect. The division of anæsthetic areas varies in hysteria; they are not always typical, like some of those described by Charcot. In this case we have anæsthesia of one leg below the knee, and a small area over the scapula, while on the opposite side there is hyperæsthesia. He has undoubtedly a hyperæsthetic condition of the left leg, and an anæsthetic condition to the touch, as well as deep puncture on the right leg. I find no atrophy of any muscle, and voluntary movement seems to be perfectly normal. There is no rigidity which would indicate that the condition of the left leg is purely reflex, and I am inclined to believe there is really no organic lesion. If the trouble is posterior meningitis, as I suspect, I do not see why we should not have organic changes. Meningitis localized to the posterior portion of the cord might produce all the symptoms this man has; it would also account for the absence of motor symptoms. Still, it may be a case of traumatic neurosis. I think he would be an excellent subject for "suggestion"; if we could get this man in proper condition I think there would be an excuse for using Charcot's "suggestion."

Dr. John Ford Barbour: There is no class of cases which may give rise to more varied or perplexing symptoms than the so-called traumatic hysteria. Undoubtedly there is no organic lesion in this case. Further, I think had there been any meningitis, by this time the evidences would have been very much more pronounced. I understand that the accident happened in 1883, which, as you see, would be about twelve years; surely had there been even a slight degree of meningitis there would have been more marked evidences than are present. The manifestations would have been much more marked, even had the process involved only the posterior part of the cord. The question arises just here, might there not be an obscure functional disease of the spinal cord, as a result of this spinal concussion? Oppenheimer, of the Charity Hospital, Berlin; Clevenger, of Chicago, and Putnam, of Boston, as well as other equally able men, have shown that there are a great variety of affections, which we speak of as traumatic neuroses, that may follow such accidents as this, very lasting in their character, which undoubtedly continue to grow worse, even after a favorable verdict has been rendered.

I remember one case in which I was called to testify, where a young lady had received a severe jolting up in a railway collision on the Louisville & Nashville Railroad seven or eight years ago. All the symptoms were very much like those in the case before us, and after the trial she was awarded ten thousand dollars damages; she has steadily grown worse. She has received the best treatment that could be secured in New

York and elsewhere, but there has been absolutely no improvement.

The railway surgeons take the same view as stated by Dr. Marvin in regard to such cases; that they are simply on the lookout for damages; that there is a great deal of hysteria and sometimes malingering in such cases. Evidences go to show that there is a condition which we must call a functional affection of the spinal cord, something that has hitherto defied the microscopist; while there is no discernible organic lesion, the progress of the case is steadily downward. Nothing that we can do in the way of treatment seems to cause any improvement. Then, on the other hand, there is the French view, which is followed by Charcot, who states that these cases all come under the head of simple hysteria. I do not think that view can be maintained. The German view, which has an advocate in Dr. Clevenger, of Chicago, is to the effect that really the lesion at the bottom of it is a vaso-motor paralysis.

The clinical history shows that about 50 per cent. of these cases recover, and in the other 50 per cent., although the cases may be settled in court, there is no improvement of the patient's condition, but on the contrary there is a steady and progressive letting down of the whole nervous system and permanent infirmity.

It seems to me that the patient before us is too low in point of intelligence to be a malingerer; I think there is real trouble in this case, although I would not like to venture an opinion as to just its nature. It would be a great injustice to this man to recommend that he be not given a pension.

Dr. T. P. Satterthwaite: I am convinced that this case belongs to the neuroses, particularly since it reminds me of a case in the person of a gentleman whom we all know in this city—he was going to his summer home one afternoon, and getting out to open the gate the wheel of his buggy struck him over the hip joint. There was no fracture or dislocation, nor any lesion that could be discovered. But from that injury on his nervous system gave away, and he died from the effect of the injury. I examined this man before us as thoroughly as possible, and came to the conclusion that there was no malingering, and my opinion was so expressed to the War Department. As I said before, I simply related the symptoms and the result of my examination to the department, without making an attempt at the diagnosis.

Surgical Eczema.—In *La Semaine Médicale* for April 28, 1894, Dr. Lassar, of Berlin, called attention to the frequency of eczema among surgeons. He says: "Eczema is often found among surgeons in active practice who use some of the various antiseptic solutions for cleansing the hands and instruments. It is well-known that those who have had eczema are not exempt because of using these solutions, but that they are rather predisposed to future attacks. The skin is left in a changed condition which is hardly noticeable, after eczema, but it is very susceptible to any irritation. Frequently it is only necessary to change the antiseptic solution to relieve the eczema.

"As a preventive I have found the following very efficient: After washing the hands with water and good soap, rub them while damp with a mixture of olive oil, glycerine, vaseline and lanoline in equal parts. The general internal treatment should also be given during an attack."

CLINIQUE.

(1) LARGE SUPPURATING DERMOID TWO MONTHS AFTER LABOR—(2) PYOSALPINX—(3) RETRO-PERITONEAL CYST, WITH EXTENSIVE INTESTINAL ADHESIONS.*

By William H. Wathen, A.M., M.D., Louisville, Ky.

I WILL report this evening three laparotomies performed to-day (April 9, 1895) at the Kentucky School of Medicine Hospital.

Case 1.—A married lady, æt. thirty-nine years, mother of six children, the youngest two months old, was referred to me by Dr. Murphey, of Salem, Indiana. She was hardly able to walk when she reached the hospital, very much emaciated, with pulse of 120, temperature ranging from 100 to 103° F., and with a tumor in the abdomen larger than one's head. She was in every way a very feeble subject; her nutrition was poor, food not being properly digested or assimilated. She noticed a tumor in the right inguinal region over two years ago, which grew slowly and caused her little trouble until since the birth of her last child two months ago. Since that time the tumor has grown rapidly, and she has been gradually getting into the condition in which I found her.

When the abdomen was opened, the omentum was found adherent over the entire anterior surface of the tumor, and when separated it opened a cyst, and as much as a gallon and a half of pus rushed out and with it this bunch of hair and matter. A large portion of the omentum had to be ligated and removed because it was firmly adherent, and had become so torn that it would not have been safe to have left it. The intestines were also adherent, and the mesentery of the intestines was so much adherent that in separating the adhesions the peritoneum was so injured that I sutured two different points.

The case is interesting because the woman carried this tumor during pregnancy and went through labor apparently without trouble so far as the tumor was concerned; but evidently the suppuration was caused by the traumatism committed in labor, and the extensive adhesions were doubtless the result of that suppuration following the labor. Again, it is remarkable that the woman could carry a cyst holding a gallon and a half of pus without destroying her life, or without rupture occurring into the abdominal cavity.

She stood the operation very well, considering her enfeebled condition; when she left the operating table her pulse was 140. At eight o'clock this evening the pulse was about ten beats lower.

Case 2.—The next patient was referred to me a few days ago by Dr. J. M. Krim, a maiden lady apparently about thirty years of age. I was unable to obtain a complete history as to how long she had been suffering, but understand from Dr. Krim that her trouble dates back six years. For the last few weeks pain has been very severe in

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* Stenographically reported by C. C. Mapes to the Louisville Clinical Society.

the right inguinal region, low down, immediately above the bladder, in front of the uterus. Her pulse was 100, and temperature 100° F. By a vaginal examination, a tumor could be felt upon the right side of the uterus, but none on the left side.

When the abdomen was opened, the omentum was found firmly adherent across the entire lower part of the front of the pelvis. This evidently caused much of the pain with which she suffered. In nearly every case I have operated upon, where the omentum was firmly adherent down in the pelvis, particularly where it was adherent across just above the bladder, the patients suffered severely, and some of them the most agonizing pain. Some intestinal adhesions were found, which were separated without trouble, but I think I have never encountered tougher adhesions of the ovary and the tube behind the broad ligament. The tube, however, was enucleated without leakage of pus, and it has not yet been opened.

No shock followed the operation, but there was a great amount of oozing, necessitating the Mikulicz iodoform gauze tampon, well packed into the cavity where the adhesions had been separated. She had a pulse of ninety at the close of the operation.

Case 3.—In the third case I have no specimens to exhibit, as none were removed. Patient, female, æt. forty years, one child living; she may have had other children, but such information was not elicited. For several years she has been suffering some pain in the pelvic region, which for the last few weeks has been very severe. In a physical examination the uterus was found almost immovably fixed, showing adhesions and a growth of some kind. I suspected that she had pus in one, if not in both sides of the pelvic cavity.

When the omental adhesions were separated so as to expose the uterus, a retro-peritoneal cyst was found in Douglas' cul de sac, the size of a goose's egg and of dark color. It had separated the peritoneum and was lying up against the mesentery of the sigmoid flexure of the colon. In attempting to separate the adhesions the cyst wall, being very thin, ruptured and the liquid discharged. Another small cyst was found in the right broad ligament. There was no pus in the tubes and no accumulation of pus anywhere. The adhesions in the broad ligaments were very extensive and the ligaments were very much thickened. The adhesions being separated, several inches of the intestine showed a thick plastic exudation. The cyst wall was so thin that it could not be enucleated deep down in the pelvis, and I really saw no necessity for enucleating it, so I tamponed the cavity with Mikulicz iodoform gauze tampon and left the cyst wall to close by granulation.

Of course there is no reason why this woman should not recover. And there is nothing of especial interest in the case, more than the fact that we often expect to find one condition, when after the abdomen is open we find another. In this case I fully expected to find pus, because the woman had a pulse of 100 and over, and a temperature of 102° F. evidently the result of localized peritonitis with which she suffered.

(All these cases have made uninterrupted recoveries.)

DISCUSSION.

Dr. Carl Weidner: The first case reported by Dr. Wathen is certainly a very interesting one, clinically as well as pathologically. I assume diagnosis of dermoid cyst was not made prior to the operation. The tumor is undoubtedly a typical one of those growths which the books speak of as dermoid cysts. It is remarkably large; such tumors rarely ever become that size. The mass lying within the sac seems to be composed of the characteristic sebaceous substance and hair. It seems to have no solid contents or hard substance, such as bone, as far as we can judge without cutting it open, thus making it a simple cyst. One interesting point in the case is that there was undoubtedly suppuration, from the symptoms detailed. It would have been a very nice point to have made a diagnosis by withdrawing some of the fluid and submitting it to a microscopic examination. It is supposed that the fluid would have contained evidences of hair formation, epidermal structures, sebaceous matter, etc., and I think it would have possibly enlarged our experience in making clear diagnoses before the removal of such growths.

Dr. Louis Frank: I assisted Dr. Wathen in the operation for removal of the dermoid cyst which he has presented. The cyst contained a very large amount of fluid, and it is a question whether it was all pus, or whether largely fatty in nature. Undoubtedly suppuration had occurred, but I think probably the greater portion of the fluid was a fatty substance, which these cysts are known to secrete.

Dr. W. H. Wathen: There can be no doubt but a great deal of the fluid contained in this cyst is fatty in character, which is a characteristic in dermoid growths; nevertheless it is clearly a suppurating dermoid. While the specimen is very large for a dermoid growth, I remember having removed one which contained as much as three to four gallons of liquid, and the dermoid matter was so small that it was only discovered by accident; a small bunch of hair and some other dermoid constituents. Dermoids as a rule are comparatively small, and are generally removed before they have grown large. I remember removing one, several years ago, not larger than a turkey's egg, with all the characteristics of a dermoid growth. But a dermoid cyst if allowed to remain may become very large, sometimes as large as the largest ovarian tumor.

OPERATION FOR RADICAL CURE OF HERNIA.*

BY W. O. ROBERTS, M.D., LOUISVILLE, KY.,
Professor of Surgery and Clinical Surgery in the University of Louisville, Etc.

TO-DAY (Apr. 23, 1895) I operated upon a man æt. twenty-four years, for the radical cure of hernia. He had been suffering with the hernia for a year; during this time he had worn a truss, but whenever he did any hard work the hernia would slip down beneath the truss and it

* Stenographically reported by C. C. Mapes, to the Louisville Surgical Society.

would take him from a few hours to a day to get it back. When I first saw him, ten days ago, the hernia was irreducible, but seemed not to have become strangulated. After several attempts I was unable to get it back, and advised an immediate operation. He objected because of the fact that a neighbor of his was said to have been cured of hernia in Cincinnati without any cutting operation. So I told him to remain in bed. I heard nothing more of him for four or five days, when his friend who had called me to see the case told me that he did not get the hernia back, and had gone to Cincinnati to see the doctor who was supposed to have cured herniæ without operative interference. While there, it seems, they did not get the hernia back, and had decided to have me operate.

I saw him to-day, and he told me that yesterday the hernia was nearly as large as one's fist, but when I had him taken to the infirmary to-day the hernia had gotten back; still, I advised him to have the operation performed, to which he agreed, and I operated this morning.

I found a small sac and a very tight ring. There was nothing in the sac at all. I went on and did a radical operation, removing the sac, and he is so far doing very well. I did the operation because of the fact that the hernia would come down now and then and he could not get it back. I was afraid some time it would get strangulated and he would be unable to get assistance, and therefore his life was in jeopardy.

SEROTHERAPY IN SYPHILIS.*

BY THE EDITOR OF PROGRÉS MEDICALE.

However valuable mercury may be in syphilis, it is very certain that it does not afford immunity against a possible attack of the disease. It then becomes necessary to discover an agent for the relief of syphilis from the new researches upon the method of the future, viz., serotherapy. It is not illogical to suppose, on the one hand, that the microbe of syphilis secretes, like other infectious diseases, a toxine which can confer immunity, and one may ask, on the other, if animals are not refactory to syphilis, because there are found in their blood chemical and other substances, by contact with which the microbes of syphilis and their products of secretion are annihilated. Hence to apply to syphilis the knowledge which in other infections has been crowned with success, is only to take one step, and that difficulty has been quickly surmounted. Injections with animal serum were made in 1891 at the "Hospital Saint Louis" in the service of M. Fournier, and under the direction of Dr. Feulard. The results of these experiments were embodied in a communication made by Dr. Feulard, and in a recent treatise by Dr. Fournier upon the treatment of syphilis. It may be said in a general way that the injections had a favorable effect. MM. Feulard and Fournier insist upon their nutritive value, and they act principally by improving the general condition. M. Feulard makes the inquiry, whether the injections of serum have a specific action, or if it is not as rehabilitating adjuncts of specific medication that they bestow their good effects. M. Fournier thinks too that it is by supporting the organism, and modifying its integral nature, that the injections expedite the cure of syphilitic lesions. Both of these experimenters believe that it is a medication which renders real service where the nutrition needs to be improved. They employ the serum of the dog and the horse, the dose at first two centigrammes, afterwards one every second day. Tommasoli has also experimented with this method, and in different memoirs he has reported the results obtained in 1892. He used the serum of the sheep and the calf, and in larger doses than those employed by MM. Fournier and Feulard. He injected from two to eight cubic centimetres daily, and did not exceed fourteen injections.

The results were satisfactory, and the syphilitic indications rapidly disappeared after the sixth injection at the latest. Very recently Dr. Istomanoff reported to the "Societé Médicale du Caucase" the good effects he had obtained from serotherapy in syphilis by the method of Tommasoli. Here too the secondary manifestations completely disappeared under the influence of the injections of serum, two to six centimetres daily for fifteen injections. These two authors are careful to avoid prejudging the question of the cure of syphilis, as well as that of immunization against a new infection. Again, recently, at the Congress of Rome, Tommasoli reported that some of his patients who seemed to have been cured, had experienced relapses. If in these cases the action of the injections of serum seem to have been favorable, it was not always so. M. Kollmann, who claims the priority of this process of hemotherapy in syphilis, employed the serum of the sheep, calf, dog and rabbit, and the results were negative. The injections did not protect the patient from secondary attacks, but they had a favorable influence upon the disease. At the Congress of Nuremberg in 1893, Kollmann returned to this question. At that time he had experimented with eighteen cases, and, despite the increased doses of the serum, he declared that he had never obtained a favorable result. Indeed, in some of the cases, new syphilitic complications had supervened during the injections, or a short time thereafter. Dr. Mazza, of Cagliari, instituted some comparative experiments after the method of Tommasoli, the results of which were always negative. From the few experiences of the different authors whom we have cited, it may be said that the results obtained from the injection of animal serum in syphilis are at least problematical. The serum of an animal that has not not been duly prepared—we shall see later on the importance of this term—does not seem to have either a curative nor protective influence. Not only does the disease continue to progress, but the specific lesions are not modified. But this is not to say that serotherapy should be rejected, for in syphilis, as in other infections in which serum has been employed, it has shown its tonic action, and its power to rehabilitate and renew the weakened organism, so much so that it seems that it is to the favorable modification which it impresses upon the whole organism that may be attributed the few successes which have been observed in the new experiences of serotherapy in syphilis. In other words, this method is a form of medication not specific, but simply adjuvant.

In the preceding researches, the experiments have been inspired, as one may readily see, by those of MM. Richet and Hericourt upon the serotherapy of tuberculosis. The argument is this: If animals are refractory to syphilis, it is because their blood contains substances which destroy the syphilitic virus and confer immunity. This reasoning, to speak truly, is a little specious. It supposes that it is the blood alone which exercises an immunizing power, and takes no account of the biological qualities of the cells of the organism. But let us have done with theory, and confine ourselves to the practical. It may be concluded that animal serum does not affect syphilis any more than tuberculosis, and that it has neither specific nor immunizing power. Let us pursue the concatenation of ideas. The blood of the animal that has not been prepared seems to be insufficient; but would it be so, if by injecting the microbes of syphilis, the quality of the blood is changed? We recognize the principle of anti-diphtheric injections, but here we dare to deal with the unknown. We ignore that which may be the micro-organism of syphilis. It is not merely the question of injecting an animal with microbic cultures, but it is to try what may result from the injection of a certain quantity of blood taken from a syphilitic human being. What modification is can the syphilitic blood produce upon the blood of an animal that can make it an agent for inoculation?

* Translated by J. A. C.

A problem as yet; but we shall see experiments made in this direction. Syphilitic blood is injected into an animal, and we will suppose, whether right or wrong, that its serum has acquired new immunizing properties, and will serve to inoculate syphilitic patients to cure them, or healthy individuals to protect them. As above said, the serum is prepared, but it may at once be seen that such a method is empirical, and that it pre-supposes a solution of numerous questions. In place of making the syphilitic virus pass through the animal organism, by which it may be destroyed most probably, why not inject directly the serum of syphilitic individuals. This serum contain antitoxine, and when injected into a newly infected individual would produce immunization. These are the theories that, as we shall see, are applied in the following experiments.

The inquiry is progressing, and inspiring more recent researches. Immunization is demanded, not from the blood of a refractory animal, for the reason that it escapes, but from blood that contains the products of microbic secretions. C. Pellizzari injected syphilitics with the serum of other syphilitics. The blood came from tertiary syphilitics, or secondary, that had already been treated. The serum was injected under the skin, of strength one half to one c.c. The method was satisfactory, but in 1892 the conclusions were not positive. Two years thereafter the inquiry was renewed, and the patients were in a satisfactory condition. By reason of the small number of patients, the author does not declare any positive conclusions, but he remarks that in many of them, because of their general condition and the indications presented by the disease, the prognosis would have been much more grave than it is. M. Pellizzari insists upon this fact, viz., that the results are much better than those produced by serotherapic treatment, and it supports his theory, by which the serum exercises an immunizing action upon the tissues not yet invaded by the virulent agent. Bonaduce has made experiments of the same kind. Discarding theoretical views, he employed the serum of children hereditarily syphilitic, thinking that it contained a large proportion of substances for inoculation. He procured from three children thirty-five c.c. of serum, and after having added 100 grammes of water, and raised the mixture to 100 degrees of temperature during ten minutes, he gave twelve injections to a patient recently attacked with syphilis. The chancre healed, the swellings diminished in volume, and seven months after the patient showed no syphilitic manifestations. This experiment is unique; it is impossible to discuss its *modus operandi*, but we are forced to recognize that it is no less practical.

In the following experiments MM. Richet and Hericourt provided themselves with the serum of an animal—dog and ass—with which, in default of the unknown microbe of syphilis, they mingled blood taken from syphilitic patients at the secondary period. A few days after inoculation the blood was injected into some syphilitics. The authors report two observations, one, an old case of syphilis, in whom locomotor ataxia was beginning, and in whom six c.c. injected three times, produced a marked amelioration. The other case was that of a young woman affected with syphilitic ulcerations. During a week she had injections of serum of one to three c.c; total, twenty-two c.c. Under their influence the syphilitic conditions improved, ulcerations cicatrized; general amelioration; specific treatment had been tried previously but failed. MM. Richet and Hericourt were preceded by an Italian experimenter, Dr. Mazzade Cagliari. He injected sheep with the blood of syphilitics taken at the latent period. The inoculations of this animal serum were afterwards practiced upon syphilitic subjects, and although he reported but four observations, the results were encouraging.

It may be said that in this second series of experiments made with the serum, prepared as it were, in opposition to the serum of animals that were simply refractory to syphilis, the results would be very encouraging. It would be the same with those based upon direct injections from man to man of blood infected by syphilis, and these experiments would be more satisfactory to the mind than all others. If the blood contains an antitoxine, it is very certain that it is in the blood of a syphilitic directly injected that the chances would exist in the greatest degree of securing the maximum of effects. If we knew the microbe of syphilis, it is also certain that the injection of microbic cultures into animals would simplify the question, and that we could hope for syphilis the same marvelous results that have been obtained in diphtheria and a number of infectious diseases. In showing the difficulties which environ the practice of serotherapy in syphilis, credit should be given to the first results, which, though few in number, are on the whole, very encouraging. As it rests upon a just idea, of which proofs have been given, let us wish for it success, and who knows that one day, not far distant, we can vaccinate against the 'big pox," as we have for a century against the "smallpox." In a few months it will be just a century since Jenner inoculated vaccine. *This* would indeed be a glorious anniversary!

New Discoveries in the Nervous System—Histological Theory of Sleep.—In a letter to the *Popular Science News*, Dr. Henri de Varigny, of the Museum of Natural History, Paris, states that Ramon y Cajal, a very distinguished Spanish histologist, has discovered through new methods that in the nervous system the cells which make up the gray matter of convolutions and of the medulla, are not connected with each other by means of fibers running from one cell to the adjoining ones, as was most generally believed until a few months ago. Each cell does certainly give out a number of fibers or roots, which diverge from each other and run centrifugally, but these fibers or roots do not coalesce with those of the adjoining cells, and make up continuous filaments. They meet the latter and are even in contact with them, but remain distinct. In brief, adjoining cells are in relations of contiguity instead of continuity, through their fibers. Moreover, these relations do not pre-exist, but are somewhat determined by mental or nervous impulses, so that, when impulses of the same sort are frequent, the cells through which the impulses pass are enlarged, and the corresponding fibers also, so that the passage is rendered easier. This explains in some degree the difficulty with which the first efforts to perform some new exercise—mental or physical—are attended, and also the greater ease which follows from frequent repetition. The exact nature of the mode of transmission of the impulses from one cell to another is unknown, but the hypothesis which suggests itself upon reading Ramon y Cajal's paper is that each cell—each "neurone," as cells are now called—may be considered as sort of amœba, with pseudopods which may be pulled out, or pulled in, just like the pseudopods of the common amœba of ditch water. When quiescent, the amœba contracts its pseudopods, and as it were, curls itself up in a ball. When active, it pushes its pseudopods out, and puts itself in contact with the pseudopods of the nearest cells or neurones. In fact, Wiedersheim has observed this very circumstance upon the cells of the brain of *Leptodera Hyalina*. These cells do not always offer the same form, but are always changing; and in the olfactory apparatus, the olfactory cells, which are of nervous structure, have pseudopods which possess locomotive faculty. Well, and what about sleep? Just this. Since the nervous cells are not necessarily in constant continuity, being only in contiguity, and in possibly changing continuity, may it not be supposed that while agents which are known to stimulate nervous activity may act by stimulation of the pseudopods, which will be pushed further out and with more vigor, the condition of sleep is one in which the pseudopods are retracted, so that impulses cease to pass from one cell to another, and that each cell is in a quiescent condition? This would be the histological theory of sleep. Of course everything is not quite clear; but the theory is nevertheless an interesting one. Some confirmation is obtained from the fact that in general paralysis a part of the pseudopods are permanently retracted, if not in a state of real atrophy. At all events, these recent investigations, and the speculations based thereupon, open new views, and the latter may be profitable. Many mental phenomena would be explainable upon this hypothesis. Fullness, for instance, would result from general inertia or laziness of the pseudopods; memory, from the ease with which the latter would push out and meet the proper adjoining pseudopods, and so on.

The New York Medical Times

A MONTHLY JOURNAL

OF

MEDICINE, SURGERY, AND COLLATERAL SCIENCES.

EDITORS:

EGBERT GUERNSEY, M.D. ALFRED K. HILLS, M.D.

Business Communications should be addressed, "Publishers, 328 Fifth Ave.," and Checks, etc., made payable to THE NEW YORK MEDICAL TIMES.

Published on the First of each month.

NEW YORK, JULY, 1895.

Changes of standing advertisements and communications in regard to that department, should be addressed to BENJ. LILLARD, Advertising Manager, 19 Liberty St., N.Y.

PILOCARPINE.

THE drenching perspiration which has accompanied the humid atmosphere and the scorching heat of the past few days, has perhaps suggested to our mind the similimum of the only drug capable of producing like effects, jaborandi and its alkaloid, pilocarpine. For this drug the medical world is indebted, as it is for many of its most efficient remedial agents, to America. It is a native of the eastern province of Brazil, and grows in the form of a shrub to the height of some ten or twelve feet. Introduced into the pharmacœpia in 1880 it has shown new powers and an ever increasing range of action as it has been closely studied. Brunton speaks of it as stimulating the peripheral terminations of efferent nerves going to glands, and first stimulating, then paralyzing the efferent nerves going to structures composed of involuntary muscular fiber. From its stimulating action on secreting nerves, it produces enormous secretions of saliva and a drenching perspiration from all the sweat glands. This perspiration usually lasts two or three hours, and is so abundant that often from a pound to eight pounds are lost, together with the salivation, in a single perspiration. Of course this excessive loss of fluid is followed by a feeling of debility, sometimes requiring alcoholic stimulants or digitalis or strychnine to tone up the failing heart. It acts not alone upon the skin but upon the mucous membrane of the mouth, nose, throat, intestines and bladder. The physiological action of the drug points to a wide range of troubles in which we should expect marked remedial results. In almost every form of dropsy, including ascites, anasarca and hydrothorax, the rapidity with which it eliminates the water through the skin and kidneys naturally directs our attention to this drug when milder measures fail. In uræmia, where there is a partial or entire suppression of urine, and even in puerperal convulsions arising from this cause, its prompt action upon the skin and mucous membrane not infrequently relieves the system of the poison and re-establishes the action of the kidneys. The dry skin, so often seen in Bright's disease, and the intense itching, the result of the senile condition of old age, receive prompt relief. Moliere recommends in that stage of acute Bright's disease marked by scanty urine, dyspnœa, anasarca, etc., the external application of an ointment of nitrate of pilocarpine, of the strength of 1 to 1 or 2,000 of white vaseline. Of this three ounces are rubbed on the skin over the whole of the trunk, which is then covered with a thick layer of cotton wool held in place by a bandage. If not uncomfortable it need not be changed till the next day, and can be repeated daily for ten days. He finds under this treatment a profuse diaphoresis, a marked increase in the amount of urine, a decrease of albumen, sometimes salivation, and always a rapid decrease of anasarca. In acute cases the change is very marked, and even in chronic cases he finds better results from the remedy than from any other agent.

The action of the drug on the mammary glands, is similar to its action upon the salivary glands, and its stimulating action upon these glands, when given in small doses, just sufficient to produce its physiological action without excessive sweating or perspiration, classes it among the best galactagogues we possess to increase the flow of milk in the apparently barren breast.

The action of pilocarpine upon the eye points to numerous troubles of that organ in which it may be of use. Brunton classes it with the pupil contractors, muscaine and nicotine, in stimulating the ends of the oculo-motor nerve which supply the circular fibers of the iris, while escrine produces the contraction of the pupil by acting directly on the circular fibers themselves. Following out this line of action occulists have found marked benefit from pilocarpine in glaucoma, in paralysis of accommodation, in hemorrhage into the retina and vitreous, and Gillet de Gradmont looks upon it as a specific in commencing atrophy of the optic nerve. It will be apparent that pilocarpine and atropine are physiological antidotes of each other, and each can be used to check the effect of the other upon the drug that is exerting an unsafe action.

One of the most interesting effects of pilocarpine is its power of stimulating the growth of the hair

and changing its color. Several cases are on record, reported by careful observers. Dr. Judson narrates a case of a lady seventy years of age, whose hair and eyebrows had been white for thirty years. Jaborandi was prescribed to relieve the itching and dryness of the skin, occasioned by Bright's disease. The eyebrows and the hair of her head grew dark in patches, until at the time of her death, which occurred about two years after she had commenced taking the remedy, they were quite black. A new growth of black hair also appeared on the scalp under the old hair. Numerous cases are reported by different physicians, all of good standing, where the use of pilocarpine has been successful in restoring the growth, even in bald places. These cases are sufficiently numerous and well attested to warrant a trial of the drug in the treatment of the scalp. Bird fanciers have various preparations they give to birds to change their color, as cayenne pepper in changing the color of canary birds to orange, but there is no well attested fact of any drug but jaborandi having changed the color in the growth of the human hair.

DRIFTING; WHO? HOW? WHITHER?

TO those who have watched the progress of our profession for the past fifty, twenty-five, or even ten years, the harmonizing influence of science in the social and professional intercourse of its members, the catholic spirit prevailing among the leading scientists is full of hope for the future. Dr. Leartus-Conner, of Detroit, in a paper read before the American Academy of Medicine at Baltimore, May 1st, shows how and in what manner the profession has been drifting away from the written Codes of 1847 to the unwritten code of common sense. "That every physician shall be deemed eligible for professional consultation who has shown that he has such preliminary training as enabled him to comprehend the study of medicine; has fully mastered the elements of medical science and art; has complied with existing laws respecting physicians in the State of his residence, and who has maintained an honorable reputation. Of these qualifications the physicians of his locality shall be the final judges. If those who know him best endorse him, then shall he be freely admitted to membership in all medical organizations and be eligible for consultations."

"Urging on this drifting," he says, "are very antagonistic elements. Physicians of the purest motives and highest character co-operate with those of selfish character and despicable motives. Promoting this drifting are State University Medical Schools, State Medical Examining Boards, State and local Boards of Health, specialists; physicians avaricious for fame, power or wealth, irrespective of the means by which they may attain their ends, and physicians jealous of professional honor and unselfishly serving humanity."

"All these, however, are but instruments of far larger forces, which form a part of the development of the medical profession as a portion of the nineteenth century civilization. Of these we note briefly the following. First: The intellectual atmosphere of the century has become softer, as seen in the diminishing asperity in religious, social, scientific, political and medical circles. Quite generally we are learning that our opponents may be gentlemen, scholars, and valuable citizens, while vigorously opposing our individual beliefs and practices. Significant of the quality of this atmosphere was the meeting at Chicago of the representatives of all religions, and their discussing, under one roof, each other's religious tenets. This atmosphere of free thought and untrammeled practice has stimulated men to expend their energies, without diversion, in the investigation of new fields; of enriching old ones; to develop good rather than destroy evil; to prevent infection more than to cure the infected; to establish the conditions needful to produce level headed physicians rather than to fight sectarian titles. With the advancing century humanity has acquired a larger faith in the ability of truth to look after its own interests, if only each individual did his own life work in the most perfect manner.

"Experience has shown that the fighting of a name, as that of a sectarian, is unprofitable to the fighter and the medical profession. Here, as elsewhere, 'The blood of the martyrs is the seed of the church.' Persecution of sectarians, under their official designation, but increases their prosperity and discredits the medical profession. The profession is drifting to the practice of ignoring the special name and of looking after qualifications for doing creditable work, of persuading individuals to abandon untenable errors in theory or practice, or, better still, of so training medical students that truths which constitute the basis of 'isms' and 'pathies' will be open to all and form a part of a great catholic profession."

MARRIAGE.

NOTHING could be more to the point, more just and truthful than the utterance of a judge in a divorce case, in stating the rights of a wife in the marriage union. "When a woman gives up her soul and body to a man in marriage she is

entitled, by the spirit, the sanctity, the divinity of the relationship, to more than a mere husband at law, to more than a house for shelter, clothes to wear and food to eat; she is entitled to respect, to confidence, to companionship, and to unfaltering love; she is entitled to chastity, as spotless as is demanded of her, not chastity born of ice, but chastity like charity, that does no evil and thinketh no evil; and when the wives of America are so married, letters like these will not need to be understood, because they will not be written." There would be little room for divorce courts and divorce lawyers if the married woman was to receive all to which, in the language of the learned judge, she is entitled. We hazard nothing in saying that in the great majority of divorces the husband was originally at fault. It is too much to expect that a neglected wife will not in turn sometimes become desperate.

FORGET.

NO more important word enters the vocabulary of the physician than the word *forget*—important to all, but doubly so to the physician, whose life is, perhaps, more full of sad than pleasant memories. An eloquent writer says: "If you would increase your happiness and prolong your life, forget your neighbor's faults. Forget all the slanders you have ever heard. Forget the temptations. Forget the fault finding and give a little thought to the cause that produced it. Forget the peculiarities of your friends, and only remember the good points which make you fond of them. Forget all personal quarrels of history you may have heard by accident, and which, if repeated, would seem a thousand times worse than they are. Blot out, as far as possible, all the disagreeables of life; they will come, but they will only grow larger when you remember them, and the constant thought of the acts of meanness, or worse still, malice, would only tend to make you more familiar with them. Obliterate everything disagreeable from yesterday; start out with a clean sheet for to-day, and write upon it, for sweet memory's sake, only those things which are lovely and ennobling."

IMPOTENCE.

DR. HUGO ENGEL gives in the June issue of the *Charlotte Medical Journal* the results of his experience in the use of lumbarin in several cases of impotence. If the drug proves in other hands as successful as in the cases narrated by Dr. Engel, it will make a very valuable addition to our materia medica. Lumbarin is an extract obtained from the lumbar enlargement of the spinal cord of the young male sheep, prepared in such a way as to combine all the beneficial effects of phosphoric acid in organic combination, and of the specific action of the animal extract, without causing any injury to the system at large. Dr. Engel commences the treatment with fifteen drops, well diluted with water, three times a day, increasing the dose by fifteen drops each day till one fluid ounce has been taken. The medicine is then continued in doses of one drachm, four times a day, gradually increasing by fifteen drops a day until two drachms are taken at a dose. Given in this way, Dr. Engel thinks lumbarin, in uncomplicated cases of loss of sexual power, is by far the most reliable specific we possess. Of course, there may be local trouble, such as hemorrhoids, strictures of the urethra, prostatic irritation, requiring local treatment, but in simple impotence arising from uncomplicated weakness of nerve action, the author thinks the remedy will seldom fail of producing the desired results. Acting more as an irritant than a stimulant to the nerves supplying the sexual organs with muscular strength, the action of the remedy, not alone in cases of impotence, but in partial or entire paralysis of the bladder, is more lasting than remedies usually employed.

AT the recent convention of bacteriologists, held at the Academy of Medicine, interesting papers were read, among others by Surgeon-General Sternberg, U.S.A., and Prof. Adami, McGill University, Montreal. There is no country in the world where such rapid advances have been made in this new department of science as in our own. It is the characterization of the American mind to glean the best thoughts of the world and utilize them in the most practical possible manner. This is the secret of the rapidity with which the various boards of health have established under State supervision and in almost every town and city laboratories with the single view of increasing the health of their community. The intelligence with which they have incorporated into their work what is best in the discoveries of the scientists of the world and utilized it in the prevention of disease and the relief of suffering, is characteristic of the rapidity and practical working of the American mind. There is no question about the correctness of the statement of Prof. Adami that outside of Berlin the best bacteriological work in the world is done in the United States.

There is but little, if any, question at the present time that it is the product of the bacteria and not the microbes themselves which form the deadly poison of disease or those harmless

changes in food so much prized by the epicure. The result depends upon the benign or malignant character of the microbes, one rearranging the molecules of tissues into the deadly ptomaine, which paralyzes the vital forces, and the other being perfectly harmless. And yet the benign and malignant bacillus resemble each other so closely that even the expert with the microscope sometimes fails in differentiating them. Upon this subject Prof. Adami, one of the most accurate bacteriologists on this Continent, says: There is scarcely a malignant microbe which has not its benign counterpart under the microscope. Bacteriologists do not rely on the microscope exclusively, but on the whole history of the germ which they have under observation. Its behavior in different media, such as broths and milks, is one test. Its action upon animals, such as rabbits and guinea pigs, is another. Of course those who have an every day acquaintance with the bacilli of tuberculosis or diphtheria, soon get to recognize a certain variety and fixity of form under the microscope which makes them all but sure that they either have or have not what they are looking for. Physicians who have but little practice with the microscope will generally find it safer in difficult cases involving more or less doubt, to obtain the aid of an expert. The benign counterpart of the malignant bacilli and the study of their work, forms an interesting chapter in the world of commerce. Prof. Conn, in investigating the various ferments which unite to give butter its distinguishing flavors, says that the characteristic taste of Danish butter, so highly valued, is due to a peculiar kind of bacillus.

By making pure cultures of this bacillus and giving them to the dairymen of his vicinity he won their lasting gratitude, for they found that the culture introduced into their cream brought out the sharp, fragrant taste of the Danish butter, and increased its market value by two cents a pound. Some of the most popular of the German cheese, as, for instance, the Roquefort and Gorgonzora cheese, owe that peculiar taste so much prized by epicures to the benign bacillus which sets up the green decomposition which adds so largely to the value of thoroughly ripe cheese. We see the work of this bacillus in the green mold on old shoes and decaying citrous fruits, which is precisely the same as that used by the German peasants for the past two centuries in the manufacture of this variety of cheese. They make this mold, however, by pouring an acid upon bread. After standing for a few days the mold appears, which they dry and powder, and then add to their cheese while still in the curd. It is in watching the work of Nature that students are able to isolate the cause and work out the results with such positive certainty as to make them important factors in the care and prevention of disease and in those great industries which quicken the pulse of commerce.

THE kola nut,* which is becoming so important a remedy in medicine, is found indigenous only to hot, damp climates, and appears to have the quality of sustaining strength without the sense of fatigue, with little food, much as is the case with erythroxylon coca. The active principle which scientists have discovered appears to be nothing but caffeine combined with theobroma, and to obtain results the bean must be fresh.

M. Heckel has found in the nut 2.35 grammes per cent. of caffeine and 0.023 grammes per cent. of the substance known as theobroma. In England, however, Professor Lascelle Scott found four times that amount (0.084 per cent.) of the latter. Dr. Le Bon thinks that both these analyses "leave very much to be desired." But, as Dr. Le Bon says, it does not matter to the public to what substances kola owes its properties; it is only interesting to know if it does possess the alleged properties, and if so how to make use of it. And this is so; for we may be very certain that not only will kola take its place in therapeutics, but will speedily become popular for the alimentation of armies on the march, explorers in wild countries, and very probably the navvy, the miner, the farm hand, the sailor during storm time, and indeed every one whose vocation is one involving physical exertion.

The personal experiments of Dr. Le Bon were exceedingly interesting. He began with finding the exact difference between the effects of caffeine and of kola. This resulted in his demonstrating that, while caffeine produced stimulation of but short duration and which caused the muscular tissue to wear itself out more rapidly than in the normal condition, the kola increased and prolonged the intensities of the muscular contractions. With caffeine he obtained a stimulation that was much more cerebral than muscular, which, whilst it was always followed by depression, in no appreciable way increased the resistance to fatigue. Kola produced prolonged stimulation, making it possible for him to withstand wonderfully long fatigues otherwise impossible, and left no after depression at all.

The experiments having demonstrated that the

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* Excerpted from Kingston, Jamaica, correspondence of the *Boston Transcript*.

only artificial duplicate for kola is a mixture of caffeine and theobroma, and the latter being a rare and expensive substance, the commercial use of which would be impracticable, it is plain that the world will have to resort to the crude product itself for its kola supply. Now that the hasty verdict of science against the claims of the kola nut as being one of the most wonderful boons possessed by man has been reversed and the merits of the article acknowledged, it is bound at no distant day to become a very much sought-for product. One indispensable condition of the successful use of the kola is that the nuts must be fresh. To a disregard of this more than to any other single fact was due the failure of the chemists to find the same results that travelers in Africa had done. The need of freshness, however, need not affect the commercial prospect more so than that of any other fruit. Indeed, with proper care, the nut can be preserved fresh, with all its active principle unimpaired, for fully a year.

One important point that has been brought out by the investigations of M. Heckel and Dr. Le Bon, and which should be widely known, is that the same dried nuts—many of which, moreover, belong to another family—that were the basis of the original experiments and the cause of the failure to discover any remarkable active principle besides caffeine, are the article of commerce of the present time. For this reason, Dr. Le Bon does not hesitate to say that all of the preparations of to-day found in commerce under the name of "kola," such as wines, syrups, tinctures, extracts, etc., *possess none of the qualities of the kola nut.* "The physician," he goes on to say, "the mountaineer and the traveler who imagine that by taking such drugs they obtain something resembling the kola nut are completely deceived."

But now that the true value of the nut is known, together with the chemical impossibility of transferring its virtues to any such make-believe preparations, and when the real fresh nut can be got on the African coast for about twenty-five cents the pound, there is no reason why the genuine kola nut, in its natural and pure state, should not become a very important article of commerce.

One peculiar property of the kola nut which has been discovered by the people of Hayti and Jamaica—for it grows profusely in the West Indies, like negroes and most other African products—is that it is a powerful antidote to the poison of alcohol. On investigation in the latter island, it has been further found that the kola does not merely allay the immediate effects of alcoholic over-indulgence, but counteracts the permanent and therefore far more serious waste of nervous tissue.

This property may possibly, on further careful experiment, be found to be the most useful one of all. For it is clear, in view of the overwhelming magnitude of the evils resulting in the world from the curse of alcohol, if a real antidote to the poison can be indicated, it will prove of infinitely greater value than the nostrums which are alleged to have the fanciful property of deadening the taste for the cup that inebriates.

It is to be feared that the task of curing the drunkard of his drunkenness is a dream that science may never realize; but that Nature should herself provide an antidote to the poison of alcohol is very probable. A scientific investigation into the peculiar action of the kola nut on the nerve centers when affected by alcohol, as crudely observed by the natives of the West Indies, may therefore lead to exceedingly useful results.

REFORMS often move slowly and fail of producing much of the desired result, because, while they seek to close one avenue, they leave others equally prejudical to health wide open. The so-called total abstainer, while he denounces every thing in the shape of alcohol, may be himself a slave to tobacco. The good wife and excellent mother, while she frowns upon the wine cup and will have none of it at the table or in the social circle, freely furnishes to her guests and her family, tea, coffee and chocolate. She does not realize the fact that narcotics, carried to excess, are just as injurious as alcoholic stimulants, and that all should be used guardedly, with an eye to their tonic action rather than as a beverage. The epicure or the glutton, loading the stomach three or four times a day with gross or highly seasoned food of the strongest character, has no right to gather his garments about him as he passes his neighbor who indulges in the wine cup to excess, with the Phariseeical phrase: "Touch me not, for I am holier than thou." The glutton is infinitely more animal than the other. He clogs his system with food he does not need, and which leads to every variety of disease. There is no doubt we eat too much, especially of meat, and with more moderation in our diet we should live longer, healthier and purer lives. A religious order called the "Trappists" illustrates this point. They eat but one meal a day, and that at three o'clock in the afternoon. Rising at three o'clock in the morning, the intervening twelve hours are spent in prayer and hard physical or mental labor. And yet, so far from being weakened by this course of life, they are wonder-

fully vigorous, and cases of illness are seldom met among them. They live mostly upon vegetables, fruits and grains, and meat is almost unknown among them. The house physician of the monastery in France says he has not met in the monastery with a single case of paralysis, dropsy, congestion, diabetes or cancer, while gout and rheumatism are almost unknown. It is true these men live quiet, pure and uneventful lives, but there is no doubt their frugal diet could be copied to a limited extent by those in the rush of life. Badalan, the celebrated French divine, on being asked the secret of his excellent health and his longevity, said that he ate only one meal a day. Among all the great reforms, none is more important and takes a stronger and deeper hold of the very foundations of life than that of diet.

THE annual meeting of the American Institute of Homœopathy, at Newport, had a fair, but not large attendance. The members were welcomed by the Governor of the State and the Mayor. The papers read and the discussions in the different societies will undoubtedly appear in the published transactions, and call for no special comment. The social element was, as is always the case, the most enjoyable. Dr. Pemberton Dudley was elected President.

THE PARTS THAT DO NOT GROW OLD. —In his work on the senile heart, Dr. Balfour tells us (*Med. Rec.*) that there are two parts of the human organism, which, if wisely used, largely escape senile failure. These two are the brain and the heart. Persons who think have often wondered why brain workers, great statesmen, and others, should continue to work with almost unimpaired activity and energy up to a period when most of the organs and functions of the body are in a condition of advanced senile decay. There is a physiologic reason for this, and Dr. Balfour tells us what it is. The normal brain, he affirms, remains vigorous to the last, and that because its nutrition is especially provided for. About middle life, or a little later, the general arteries of the body begin to lose their elasticity and to slowly but surely dilate. They become, therefore, much less efficient carriers of the nutrient blood to the capillary areas. But this is not the case with the internal carotids, which supply the capillary areas of the brain. On the contrary, those large vessels continue to retain their pristine elasticity, so that the blood-pressure remains normally higher than within the capillary area of any other organ in the body. The cerebral blood-paths being thus kept open, the brain tissue is kept better nourished than the other tissues of the body. Who is there among those who have reached or passed middle age that will not be rejoiced to find such admirable physiological warrant for the belief that the brain may continue to work, and even to improve, almost to the very last hour of life?

GOV. MORTON decided not to approve the bill bringing New York City dependent insane under State care because it is a proposition known as a "city bill" and constitutionally should first be decided by the city authorities. Mayor Strong could not see his way to approve the measure, in justice to the city, on account of the equity at stake.

If this matter had been taken up by good business men rather than politicians, it would have been settled on equitable principles in short order. The city recently paid the State a large sum for a portion of Ward's Island, and has expended much money here and at Islip on buildings, etc., which we understand the State made no allowance for, and again the city has cared for its own insane for years, and has paid the State for taking charge of them into the bargain, all of which came from the grasping politicians for patronage.

Mayor Strong, standing upon his well-known business principles, could not allow the city money to be thus squandered. He insisted naturally upon a fair adjustment between the State and city, and he was right in doing so.

If the next Legislature will refer the subject to a commission of disinterested citizens regardless of politics, with instructions to see justice done, we shall have speedy settlement, with State care of the dependent insane.

The Lunacy Commissioners have shown excellent ability in their efforts, but we presume it was without their province to examine the equity, as Mayor Strong was compelled to do from his position. There seems to be no doubt that our city asylums are shockingly overcrowded, and the conditions deplorably bad, for all of which we have only to thank the professional politician.

The city should have honest treatment from the State, and that the Mayor is justified in insisting upon.

THE opinion advanced last month in these columns, respecting the advantage that would be gained if capital cases "were to be decided by a bench of educated judges skilled in the study of physiognomy and the influence of personal feeling on testimony," has been strongly supported by recent occurrences in Brooklyn. An aged miser

is found horribly murdered in his own house. His wayward son is suspected of the deed, mainly because of certain utterances by another son, who passes for a "good" young man. The poor, half-imbecile wretch is forthwith clapped into jail, where he is not allowed to see his counsel or receive letters from his friends. Worse still, he is persistently practiced upon by members of the police force, who endeavor to entrap or frighten him into a confession by a kind of moral inquisition, in which they claim to be experts. Their efforts completely failed in this instance, and it now appears they have really no more ground of accusation against their victim than against any other member of his family. What right had these men to anticipate in this or any other way the regular course of proceedings, and brush aside the prisoner's privilege of being considered innocent until proved guilty? If trial by jury is too clumsy and uncertain a method of getting at the truth, or if jurymen cannot be trusted to render an honest verdict, it would surely be far better that the accused should be examined and his fate decided by disinterested lawyers of the highest class rather than by a set of irresponsible thief catchers and their subordinates. In addition to this, criminology has become, or is fast becoming, a branch of science, and it is time its teachings were brought to bear upon the actual administration of justice.

"WORDS of cheer are words of help; words of gloom are words of harm. There is a bright and a dark side to every phase of life and to every hour of time. If we speak of the bright side, we bring the brightness into prominence; if we speak of the dark side, we deepen its shadows. It is in our power to help or hinder by a word any person with whom we have any dealings. A look or word can help or harm our fellows. It is for us to give cheer or gloom as we pass on our way through life, and we are accordingly responsible for the result of our influence."

TREATMENT OF SEBACEOUS TUMORS.—Many people, the subjects of congenital sebaceous tumors and "wens," object to having them removed, on the score that the remedy is worse than the disease, and the after-consequences may be serious.

The following is the method which Dr. T. Murray Robertson has adopted in such cases, and with marked success (*Brit. Med. Jour.*): With a cataract knife (Graefe's) puncture the cyst, and gently squeeze out the contents. Then introduce a very small piece of nitrate of silver. On the following day, by means of a pair of forceps, the capsule of the cyst can be withdrawn, just like the shell of a bean, without any portion being left adherent. In no case has there been a return of the growth or any ill effects.

The method, if tried, will be found to have many advantages, aside from its simplicity and thoroughness.

READY METHOD OF BACTERIOLOGICAL EXAMINATION.—Penrose has suggested the following ready method of making a bacteriological examination during an abdominal section. In cases in which it is important to know whether or not fluids with which the abdominal cavity has been soiled are infectious, a cover glass specimen may be fixed with the flame of a spirit lamp, and then stained with marble fuchsine and examined at once.

WEAK HEART.—Dr. J. M. DaCosta recognizes the following (*Univ. Med. Mag.*) varieties of weak heart: That dependent upon degeneration of the cardiac muscles, especially the fatty heart. That connected with dilatation of the heart. That resulting from the action of certain poisons on the nervous mechanism of the heart. That due to an intrinsically weak muscle, and finally, that resulting from nervous exhaustion.

A NEW METHOD OF TREATING CONGENITAL DISLOCATION OF THE HIP.—Mr. Arbuthnot Lane recently presented at the Clinical Society of London, two patients upon whom he had operated by a new method. This consisted of removing the head of the femur from its movable position on the dorsum ilii to a secure position below the anterior inferior spine of the ilium, to which it was sewn, with the result that the lordosis was lessened, and the walking powers of the patient were increased to very little below the normal. The advantage will not be equally great when there is a double dislocation. The operation is not intended to supplant that of replacing the head of the bone.

THE cause of the epidemic of typhoid fever which recently devasted New Milford, Conn., has been found in the clothing of a laborer on the farm where the disease originated, the man having had typhoid before coming to this place, and it is supposed his clothing was not disinfected properly, if at all. These epidemics admonish us that we cannot be too careful in our examination and advice in respect to such matters, and that the physician has a grave responsibility in the premises.

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Full of condensed information of the most practical kind. Invaluable to the student and the physician.

HYGIENE AND PHYSICAL CULTURE FOR WOMEN. By Anna M. Galbraith, M.D. New York: Dodd, Mead & Co., 1895.

One of the best works on the subject before the public. The style is that of a clear head, a close observer and a practical worker, and the engravings illustrate very favorably the meaning of the text. An excellent work, not only for the nurse and training school, but for the family.

PATHOLOGY AND TREATMENT OF DISEASES OF THE SKIN. For practitioners and students, by Moritz Kaposi. With eighty-four illustrations. Translation of the last German edition, under the supervision of James C. Johnston, M.D. New York: Wm. Wood & Co., 1895.

It is enough to say Prof. Kaposi is the successor and was the pupil of Hebra, to secure attention to this work. These lectures contain the views of Hebra, modified or amplified by the developments of modern science and the experience and original investigation of the author. The translation is all that could be desired, the meaning of the German text being presented in correct and choice English. It is safe to say that no more important work on dermatology has been presented to the English speaking public since the work of Hebra and Kaposi was published under the auspices of the Sydenham Society several years ago.

THE CARE OF THE BABY. A Manual for Mothers and Nurses, Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozier Griffith, M.D. Philadelphia: W. B. Saunders, 1895.

Professor Griffith has utilized the immense amount of information and practical experience he has gained as Professor of Diseases of Children in the University of Pennsylvania, of Clinical Medicine in the Philadelphia Polyclinic, and as physician to several children's hospitals, in the preparation of a work of rare merit and usefulness. We are confident if this little work could find its way into the hands of every trained nurse and of every mother, infant mortality would be lessened by at least fifty per cent. The right way, which is here clearly taught, is so much easier than the wrong, and so much more conducive to pleasure and comfort, that most of the terrors of the nursery would cease to exist. We wish more of our scientists would turn their attention to that instruction of the people in what is considered of little worth, but upon which so much depends.

THE HISTORY OF PROSTITUTION: ITS EXTENT, CAUSES AND EFFECT THROUGHOUT THE WORLD. By William W. Sanger, M.D., Resident Physician, Blackwell's Island, New York, etc., etc. With Numerous Editorial Notes and an Appendix. New York: The American Medical Press, 1895. pp. 710, 8vo.

This volume, based upon investigations made by the author previous to 1858, has been edited and with an appendix brought down to the present day. While the subject is a delicate one, we shall admit that it is a practical one, and must be studied from a scientific standpoint, and this has been done in the text before us. The book will be found of value to all who take an interest in the public welfare. The law maker, the physician and the humanitarian, will each find material worthy of consideration. In an elaborate "introduction" the author states the reasons which have called forth his effort, and his position as a resident officer where he could command data, have enabled him to do his work in a manner satisfactory to the student who would become familiar with the subject. We commend the book to those of our readers who desire to make such a study.

SOCIETY REPORTS.

FRENCH MEDICAL SOCIETIES.

CONGRESS OF SCIENTIFIC SOCIETIES. SECTION OF MEDICAL SCIENCES.

President, M. Le Royde Méricourt.

M. Cacheux, delegate from the French "Society of Safety," made a communication upon the public relief societies in France and other countries. The system most commonly employed abroad is that which consists in forming what are called Samaritans, that is, bodies of men capable of administering urgent medical aid before the arrival of the physician. Samaritan instruction is given by private societies, the most important of which is the "Saint John Ambulance Association," created in London by the Chevaliers of Saint John of Jerusalem. This society numbers more than 300,000 Samaritans. During the last year it distributed 30 000 certificates to pupils who had passed a successful examination upon their various subjects of instruction. The Society decrees medals to those capable of giving useful aid to the wounded. In Germany and Switzerland, the Samaritans are equally numerous. At Vienna and Buda Pesth, powerful societies have established relief localities similar to that founded by M. Nachtel at the "Hospital St. Louis." At Berlin eight corporations have very recently installed four relief posts, united by telephone to all the others occupied by members of the corporations. When a workman is wounded, the nearest post at once dispatches a vehicle with a physician who is provided with all the necessary medicines and instruments for an urgent operation. The German corporations expend 3,500 000 francs annually for the care of the wounded. In France the helpers do not give all the services that they might, if they desired to utilize their benevolence in cases of accident before the arrival of the physician.

The Prophylaxis of Diseases of the Ear.—According to M. Courtade, of Paris: First. The diminution of auditory acuteness is more frequent than is generally supposed. In the adult, one person out of three has not normal hearing. One child in four or five presents the sense of hearing so defective as to interfere with his or her studies. Very often a defect in progress, which is due alone to some affection of the ear, is accounted for by distraction and indifference. Second. Much the most frequent cause of deafness, besides the eruptive fevers or cerebral maladies, is an acute or chronic inflammation of the rhino-pharyngeal mucous membrane, or the presence of adenoid tumors. Third. In these cases the treatment should be directed at the same time against the auricular region and the primordial affection, in order to obtain a favorable result. Fourth. In the eruptive fevers or general diseases, the examination of the rhino-pharynx should not be neglected. Antisepsis, as vigorous as possible, of this region, will, in the majority of cases, prevent auricular complications. Fifth. Persons deaf from rhino-pharyngeal inflammation often transmit to their descendants this tendency to rhino-pharyngitis, which may reach the middle ear. From this fact every attention should be given to the nose and throat of children of deaf persons, in order to subdue inflammatory lesions of these parts, and so to prevent hereditary deafness.

Actino-Mycosis in France, Particularly in the Region of Lyons.—Dr. A. Poncet thus reports this disease: He says: "One of my pupils, Dr. Jules Jiron, has collected

in his report all the cases of actino-mycosis that have been published in our country. Their number is fourteen, of which four were observed in Lyons. From this it would seem that this parasitic affection, known in human pathology since 1879, is particularly rare in France. I believe this to be erroneous, for since my attention has been especially called to actino-mycosic lesions, there have been gathered during the last fifteen months, in my service alone in the Hotel Dieu, four new cases of the disease, and in the city I have encountered other cases." From these observations M. Poncet reaches certain conclusions looking to the diagnosis and prophylaxis of actino-mycosis, and also to the gravity of the disease and its treatment.

To make a diagnosis of actino-mycosis: The attention being called first to the peculiar physiognomic appearance of the disease, and which gives the idea of a neoplasm, and of an irregular inflammatory lesion, a microscopic examination will reveal small yellow grains, visible to the naked eye, while the microscope will show pus, thus demonstrating the infectious character of the fungoid excrescence. Actino-mycosis is most frequently confounded with syphilis and with those lesions that affect the jaws and are of dental origin, especially such as attend the evolution of the "wisdom teeth." This is particularly the fact in relation to syphilis. Many persons have been mistakenly gratified because the iodide of potassium modifies not less happily the actino-mycosic condition than the syphilitic (Thomasen, Nocard). But in order that the remedy shall act effectively and cure the actino-mycosis, it should be administered at a date as near as possible to the beginning of the disease, before it becomes diffused and generalized, and before other microbic affections have given a graver character to the malady. The surgical treatment, incision of the abscess, drainage and curettage, are of great importance, and should be employed diligently. As regards prognosis, that naturally depends upon the locality of the disease, the importance of the affected organs, and the local surroundings of the patient. Judging from our observations, actino-mycosis is a very grave malady, meriting all the attention and care of the physician, since in eight cases there were four deaths. Other foreign statistics, in a large number of cases, are fortunately less severe. In all cases it should not be forgotten that along with actino-mycosis of a mild form there may exist a malignant form of it, and that the chance of curing the latter will be increased by prompt recognition of the clinical signs and other usual means of investigation. We believe that actino-mycosis is as frequent in France as abroad, and should not be overlooked, and we are convinced that if we look around us we shall find it, and in the same proportion as foreign countries, in which it has heretofore been more commonly met with.

INTERNATIONAL CONGRESS OF HYGIENE AT BUDAPEST.

Bacteriology: Contest Over Bacterial Poisons.—Mr. Hans Buchner opened fire. According to him the natural power of resistance of the organism belongs to a bactericide substance, to which he has given the name of "Alexine," and also to the natural insensibility of the cells and tissues of the organism to certain bacterial poisons. The leucocytes exercise a preservative function, not by reason of a phagocytic power, but by protective substances which they secrete. The natural or artificial immunity belongs to the specific or antitoxine bacterial products, which pass into the blood or the tissues, or into both, at the same time. Into blood and milk the antitoxine can surely pass, carrying immunity with it. Its action does not directly cause the destruction of the bacterial poison, but produces a dimunition of susceptibility of the organism to the action of this poison. M. Metchuikoff Elie, of Paris, stated that since the Congress of London, he had produced a very important modification of the humoral theories To day, the role of the leucocytes is not disputed. M. Behring admitted two kinds of immunity, the active and passive. The first is of cellular origin and is alone durable, the second, purely humoral and transient. But this fact remains demonstrated, that when a leucocyte has enveloped microbes, these last, if they continue to live, become no less the most active factors of immunity, Leucocytes act then, not only against microbes, but even against the cell poisons. M. Denzs, of Louvain, has, with MM. Van de Velde and Leclef, prosecuted researches to discover if leucocytes secrete bactericidal substances. By separating the serum and the serosity taken from rabbits injected with virulent or attenuated staphylococci, it was proved that the serum enfeebled the normal bactericidal power, while at the end of a few hours, the serosity pure, augmented it.

This serosity proceeds from the leucocytes. M. Andrewsky, of Clarembourg, endeavored to associate bacterial poisons with the chemical groups actually known. Similar attempts have already been tried by Duclaux. Some are analogous to the alkaloids, others to albuminoids, others again do not belong to these two classes, and up to the present time, the physical and chemical properties of bacterial poisons have led to no theoretical result.

M. Roux explained the principles of serotheraphy. It is necessary to distinguish two forces in the antitoxic power of serum, one which protects against toxine, the other against the living virus. M. Metchnikoff has explained the preservative action of serum against the living virus by cellular excitation. It is easy to comprehend that the action is not specific, and that an alkaline liquid or saline solution would act in the same way. It is not the same with antidiphtheritic or antitetanic serums. They contain as an active agent a very small proportion of antitoxine, this appearing to be equal to the quantity of toxine. M. Behring has shown that the mingling of toxine and antitoxine by injection is harmless. Serum of the rabbit, when diffused, may acquire an extraordinary power. But one may equally make combinations of toxine to manifest great activity. This proves that antiseptic or antitetanic injections are probably not specific, but that they act by exciting the cells, and producing a phagocytic action. This places serotheraphy in a new light. These different communications have caused an ardent discussion of the phagocytic theory, from which the Pasteur Institute seems to have emerged victorious. For it appears to be demonstrated that the alexines and antitoxines are secreted by the leucocytes, without there being leucocytes especially prepared for this function. Two orders of the antitoxic serum should be distinguished, one protecting against the living virus, the other against the toxines. The immunization of animals must be made by small quantities of the injections, frequently repeated. The serosity obtained at the point where the bacterial injection is made, is very much more active than the normal serosity.

ACADEMY OF MEDICINE.

President, M. Empis.

Rhythmic or Vibratory Massage of the Mucous Membrane in the Treatment of Affections of the Nose, of the Throat, and of the Ears.—M. Garnauld: Among the various methods of treatment of diseases of the nose and throat, pulverizations have no efficacy, nasal douches are equally ineffectual, and, on the contrary, are productive of grave dangers; cauterizations possess no more advantages, and their indication is relatively rare. In the massage of the mucous membranes, I distinguish the sedative massage and the excitant massage. The sedative or veritable vibratory massage is successfully employed against catarrhal condition of the nose and of the throat. A treatment by this massage confers for many years absolute immunity against coryza, and it is equally efficacious against reflex asthma and hay fever. I employ, on the contrary, the excitant rhythmic massage in pathological conditions of the mucous membranes, in which I observe a tendency to atrophy and sclerosis. The type of these affections is ozena, which manifests itself by atrophy of the mucous membranes and the formation of crusts upon their surface, and by the fetor of the secretions. Until now, it has resisted all methods of treatment in subjects who have reached their twentieth year. Complete cure of this disease by the excitant rhythmic massage is the rule, and, in other cases, great amelioration is always obtained. My observations upon this subject entirely agree with those of M. Schmidt. There are many special manipulations for the ears. Vibratory massage of the tubes causes the inflammatory

swellings of these organs rapidly to disappear, and by putting in play the reflex vaso-motor actions, rapid absorption of the exudations occurs. The applications of massage of the tympanum have, in my hands and also of M. Lucae, produced extremely remarkable improvements of deafness, even in cases of the most obstinate scleroses. One may say that this method constitutes the treatment *par excellence* of deafness.

Pulmonary Troubles From Porcelain Dust.—M. Lemaistre, of Limoges: The workers particularly affected by the dust of porcelain—640,000,000 of particles to the cubic foot of air—are young workers, less than twenty-five years, affected with tuberculosis, and the old with pulmonary sclerosis. It becomes necessary that the places where they work should be large and better ventilated, and that they should not be too young nor predisposed to tuberculosis. At the very first symptoms of tuberculosis or selerosis it is especially necessary to stop their work and change their employment for something else.

Antipyrine in Infantile Diarrhœa.—M. Rousseau Saint-Phillippe, after showing the dangers of opium in early infancy, bore witness to the good results obtained by antipyrine. He reported more than 500 observations. It is particularly in diarrhœa from simple abnormal flux from the intestine, due to deranged alimentation or a slight inflection, that the remedy should be prescribed. Acute infectious diarrhœa and infantile cholera are but slightly modified. The reflex diarrhœa of dentition, chronic diarrhœa accompanying any of the dermatoses, coincident with the menstrual flow of the nurse, and infantile colic are marvellously modified and cured. When less than a year old, the antipyrine should be prescribed as follows:

℞ Antipyrine. .....0 gr. 50
Simple syrup } a a..... 50 grammes.
Water }

One teaspoonful every two hours.

In children under the ordinary alimentary regime evacuate the intestines with a dose of calomel before prescribing the antipyrine. The mode of action of the antipyrine is explained by the improvement of the secretions, the coagulation of albuminoid matter, the arrest of putrid fermentation, and its soothing effects upon the colic, and the intestinal contractions.

Tuberculosis in the Yellow Race.—M. Lancereaux presented a memoir by M. Ernest Martin, which showed that despite deplorable hygienic conditions, tuberculosis is rare in China. This relative immunity of the yellow race is explained, first by the lesser gathering together of the population in the large cities; second, by alcoholic sobriety, which in general amounts almost to absolute abstinence from alcohol.

MEDICAL SOCIETY OF THE HOSPITALS.

A "Bruit de Galop" in the Course of Typhoid Fever.—M. Hanot observed in a woman of twenty-two years a marked cardiac bruit in the above disease. This symptom, which occasioned signs of collapse, persisted for six months. It is probable that it was produced by a specific alteration resulting from an infected state of the blood, and determined an endocardiac lesion in the right cavities of the heart.

M. Hutinel, in the name of M. Daltroy, of Marseilles, read a report upon serotherapy in diphtheria. In ninety-six cases treated, the mortality was only 23 per cent. instead of fifty; 5 per cent. of the preceding year. The injection of serum promoted meustruation. Observations relating to the percentage of cases of diph heritic angina, pure or associated, of croup, and of the success of intubation, are analogous to those already reported in the hospita's of Paris.

M. Siredey read, in the name of M Hayem, a few notes relative to the treatment of chlorosis by rest in the horizontal position, nourishing diet and active medication. In grave cases, the rest is necessary in order to prevent disorganization of the blood corpuscles; the regimen should be appropriate to the gastric troubles; most generally there is parenchymatous gastritis. The diet should be of milk and raw food, and later, soft eggs. If there is dilatation, then massage is of great service. The protoxalate and lactate of iron are the best preparations to employ when the dyspeptic conditions have disappeared.

M. Siredey also reported an observation of a man of twenty-four years, attacked with grip following infection by the bacillus coli. This was marked by uremic complication, to which the patient succumbed. The bacillus coli was found in the liver, the blood and the urine.

M. Gaillard communicated a case of a man of forty years, affected with a hydatid cyst of the liver from infection by the pneumococcus. Beginning with an obstruction of the intestines, there were violent pains over the lower border of the liver. Hepatic colic was suspected, as there was an icteric tint. Puncture of the liver brought away black pus mixed with bile, and more extensive puncture subsequently gave issue to a copious flow of pus containing hydatids and pneumococcic microbes. The patient recovered, but the cause of the infection remained obscure, as there had never been pneumonia.

A New Process of Total Abdominal Hysterectomy for Uterine Fibroma.—M. Richelot described minutely his new process for this disease. According to him, it is simple, for it does not require any special use of instruments, and he finds it very satisfactory, and in all cases, superior to the old methods of abdominal hysterectomy with the pedicle. It is characterized by the total absence of ligatures and the exclusive employment of permanent forceps by the vagina. There is much analogy with vaginal hysterectomy, and only requires a few forceps and a bistonry. M. Richelot operates by placing himself between the thighs of the patient, not using the inclined plane. After careful vaginal disinfection, the abdominal wall is incised and the fibroma enucleated. If it is too large, he commences to reduce the tumor by enucleating some of the small fibromata which constitute the mass of the tumor, then lays it over on the surface. This done, he rapidly lifts and uncovers an anterior fold of the peritoneum, so as to avoid the bladder and ureters, perforates the vaginal cul de-sac from below upwards, makes two perforations at the two bases of the large ligaments, in order to penetrate into the posterior cul-de-sac, and places two large hysterectomy forceps upon the broad ligaments. When placed, these are divided, and the tumor lifted out with a section of the vaginal insertion of the posterior cul-de-sac. If there should be hemorrhage, as is usual, it may be arrested by two or three small forceps.

Vaginal Tamponing With Iodoform.—M. Richelot has employed this process five times, four times for fibroma, once for cancer; the last succumbed.

ACADEMY OF SCIENCES.

Therapeutic Action of Currents at High Frequency.—M M. Apostoli and Berlioz: M. d'Arsonval has introduced into electrotheraphy new processes of electrization, based upon the employment of currents of great frequency. M M. Apostoli and Berlioz have experimented for a year with one of their methods, auto-conduction, upon seventy-five patients. The sum of the clinical conclusions of these authors goes to fully confirm the physiological discoveries of Prof. Arsonval upon the same subject. When these currents completely envelop the patient and act by auto-conduction, they continue ineffectual and powerless against the majority of hysterical troubles, and certain local neuralgias. The neuroses, too, do not appear to be directly subject to their action, but the same currents exercise a manifest and powerful influence upon nutritive activity, as was demonstrated in 267 analyses of urine, and which showed itself by a constant hyperactivity of the organic combustions, diminution of uric acid, a normal elevation of urea, and a tendency to approach near to their respective relation of 1-40. The currents also exercised a modifying action against the troubles produced by the diminution or perversion of nutrition, and rapidly manifested their beneficient action by the restoration of the forces of muscular energy, and the general strength, return of appetite, more complete sleep, etc., etc. MM. Apostoli and Berlioz have given proofs to demonstrate that currents of great frequency are destined to become a powerful treatment in diseases resulting from enfeebled

nutrition, arthritis, rheumatism, gout, and very probably also glycosuria, as was announced by M. d'Arsonval.

BIOGRAPHICAL SOCIETY.

President, M. Féré.

MM. d'Arsonval and Charrin have studied the effects of the gas known as the "Melange de Pictet," carbonic acid 4 per cent., sulphurous acid 95 per cent. This mixture, employed to produce by evaporation extremely low temperatures, is very diffusible, about twenty times more so than hydrogen, will penetrate everywhere, and will disinfect much more powerfully than the sulphurous acid employed alone. It easily penetrates mattresses, always so difficult to disinfect, and does not render apartments offensive.

The Impregnation of Nerve Cells—M. Berdal's method of coloring, in sections of the medulla, either the cells, axis cylinders, or sheaths of myeline. In order to impregnate rapidly the cells of the brain and cerebellum, the author employs a saturated solution of the bichromate of potash, containing twenty-five grammes of sulphate of copper to the litre, upon a stone, kept at a temperature of 35° to 38°. The impregnation may as easily be made cold, but very slowly. A portion of medulla, from beef, placed for fifteen or twenty days in the solution cold and cut when frozen, will give sections that may be colored at will, and exhibit cells and cylinders and myeline sheaths. To color cells and cylinders an alcoholic solution of hematoxylene, campêche, or carmine, may be used. To color the sheaths, treat the section to alcohol, aniline oil, for a few seconds, again alcohol, and finally by the solution of hematoxyline or campêche. It is impossible to explain the last reaction. To obtain sections of the medulla M. Berdal makes use of the "Rocking Microtome." In 1891 M. Dumaige constructed for him a "porte-objet" for congelation, and he has just modified the latter to enable him to employ either the chloride of menthyl, or liquid sulphurous acid, a cheaper method.

ACADEMY OF MEDICINE.

President, M. Empis.

Phosphorism.—M. Péau gave the result of his researches upon phosphor-necrosis, and showed especially that the necrosis may attack the jaws before the teeth become carious. He believes with M. Magitot that it is generally necessary to submit the patient, before operating, to a medical and hygienic treatment. But he remarked, very justly, that in certain cases the accumulation of buccal suppuration constitutes a permanent source of infection.

Nephrolithotomy and Nephrectomy in Calculous Kidneys.—M. Le Dentu read report of a case by M. Duret. He approved the extra-peritoneal method, the trans-peritoneal being always more dangerous in case of pyonephrosis. Nephrectomy should be employed where the calculus occupies and has disorganized more than half the organ. Neprotomy may suffice in the case of small calculi, in the absence of suppuration of the pelvis, and especially of the integrity of the renal structure. If the kidney is not adherent, then nephrectomy is the best procedure, with removal of both kidney and calculus In case of adhesion, extract the calculus by nephrotomy and crushing. The nephrectomy should be made as complete as possible. Sometimes the adhesions will compel to be content with nephrotomy.

On the Effects of Exposure to Heat.—M. Cadet de Gassicourt read a paper by M. Colin d'Alfort, showing that the effect of heat results from complex causes, but that the hyperthermy or excess of heat was in the midst of the blood currents. To promote transpiration and avoid condensation of sweating are the principal means of overcoming the hyperthermy of the blood.

M. Vallin declared that the effect of heat may, contrary to the opinion of M. Kelsh, occur without producing any organic trouble. On the 4th of July, 1859, in a forced march of a French division during the campaign in Italy, 2,000 men were overcome by the heat On the 8th of July, 1853, a Belgian regiment lost during a march in the middle of the day, two-thirds of its effective force. Such a proportion of men did not present organic troubles; the effects of fatigue and insolation certainly made themselves felt. But in India English soldiers are very often stricken while sleeping in their quarters. Again, to show that the action of the sun is not indispensable, stokers in the navy in tropical seas are very often attacked.

SURGICAL SOCIETY.

President, M. Auger.

Surgical Interference in Contusions of the Abdomen.—M. Michaux, in a very interesting communication, recalled all the works that have appeared upon this subject, except those entitled, "Instantaneous Surgical Assistance." But this was the occasion especially fitted to allude to the facts of contusions of the abdomen, in which immediate intervention produced the most brilliant results, as the author has proved. M. Michaux cites eleven demonstrations which prove, that in all cases in which traumatism is even slightly intense, it is indispensable to interfere immediately. We will repeat with M. Michaux that in all cases it is necessary to operate as quickly as possible. He says that one may wait for fifteen or twenty hours, without inconvenience. We cannot follow him here. In our opinion it is necessary to act as soon as possible after the occurrence of the accident for contusions of the abdomen, as for other wounds, and we are convinced that if an operation is not speedily performed it should only be because the material conditions present and insufficient surgical assistance make immediate intervention impossible. In this admirable work of M. Michaux may be found cases of laceration of the intestines, of the liver, rupture of the biliary passages, laceration of the mesentery, etc., terminating by cure after laparotomy.

Grippal Eucephaldpathy—M. Cornil communicated a case of grippal meningitis terminating fatally. There were found intracortical hemorrhagic effusions, dilatation of the ventricles, congestion of the pia mater. The vessels of the gray substance were themselves affected. Bacteriological examination revealed no microbes. The microbe of grip does not penetrate into the blood. M. Leon Colin recalled the relation between epidemics of grip and those of cerebro-spinal meningitis. M. Cornil, when questioned upon the bacteriological examination, showed that post-grippal suppurations may be allied to the ordinary agents of suppuration or to the microbe of grip. The pneumococcus gives a fibrinous exudation, the streptococcus and staphylococcus give consistent pus. In one case the pus was like a serous fluid.

J. A. C.

TRANSLATIONS, GLEANINGS, Etc.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M.D., Fellow of the Academy of Medicine, New York.

Petroleum in Pulmonary Tuberculosis.—Dr. Pellisier (*Bull. Gen. De Therapeutique*, Tome CXXVI., p. 416; *Med. and Surg. Reporter*), observing that workmen about oil wells are rarely affected with consumption, tried the filterated crude oil in treating this disease. It was given in capsules and inhalations of its vapor used at the same time. The results, he claims, were astonishing. The cough and sweats disappeared, appetite and sleep became normal, and the affected portions of the lungs healed. Attempts to give it in clysters failed from its slight absorption.

Cinnamon for Cancer.—The *Cincinnati Lancet-Clinic* quotes from the *Pacific Record* as follows: J. Carne Ross, M.D., physician to the Ancoats Hospital, Manchester, communicates a letter to the *Lancet* of July 21, 1894, in which he gives the results of some experiments he has undertaken on the above subject. Dr. Ross states that while carefully guarding himself from saying anything that would suggest that cinnamon should be regarded as a so-called specific in cancer, yet he has invariably found that where pain was present it ceased, that fetor disappeared, that the general health invariably improved

after using the drug. The best results have, on the whole, been obtained where the tumor was cut off from the air by being situated either in the stomach, the rectum, the uterus or the mammæ, where the superjacent skin and covering of the nipple were intact. Dr. Ross then gives particulars of five cases which were under the cinnamon treatment, in each of which marked improvement ensued. The preparation of cinnamon employed was a strong decoction, made by taking one pound of Ceylon sticks and boiling slowly in a closed vessel for eight hours in three pints of water till the water is reduced to one pint, pouring off without straining. The mixture should be shaken up before taking each dose; patient to drink half a pint every twenty-four hours, the half pint to be divided into such doses as best suit the patient.

The Electric Light in the Cure of Diseases.—Dr. G. Meeker (*Med. Brief*) says: "In the natural state the skin is a perfect organism for eliminating morbific substances, but in civilized society this function is interfered with by the clothing. The use of the bath has thus become an imperative requirement for health. The Turkish bath has won a deserved popularity as a powerful auxiliary to cleanse the skin, refresh the body and remove noxious elements. Superior to it, however, is the application of the electric light. This virtually takes the place of several hours of sleep in resting and restoring the body as the result of a more rapid elimination of effete and morbid material. After numerous and repeated experiments, Professor Ward, of England, has declared his conviction that the light rays, and not the heat rays, are destructive to bacteria, and that among the different colored rays the blue are the most effective for that purpose. This fact is full of suggestion, and it seems as if we come to learn by degrees that there is more healing virtue stored up in light and color than we are generally willing to admit.

Chronic Alcoholism.—Dr. Zdekauer contributes to *La Semaine Médicale* the following formula:

Chlorine water	8	parts.
Decoction of althea	155	"
Simple syrup	15	"

He says that appropriate doses of this mixture not only ameliorate and cure the gastric disturbances of chronic alcoholism, but will suppress the irresistible desire for alcohol.

Chekan for Chronic Cough of Aged People.—Dr. W. C. Manley (*Chicago Med. Times*), speaks as follows concerning the efficacy of chekan, or eugenia chequen, as a remedy in chronic catarrhal inflammation of the respiratory mucous lining. The plant is a native of South America, where it grows in abundance.

Dr. William Murrell, of London, highly recommends it in the winter coughs, and it is in these cases, especially in aged people, that I have given it the most thorough trial, and in *chronic* cases it has given the best satisfaction.

"It seems to be particularly adapted to those conditions following an acute inflammation of the air-passages, which take on the character and symptoms, except the elevation of temperature, of phthisis pulmonalis in younger subjects. I usually prescribe the fluid extract in half-drachm doses, from four to eight times a day, in a little simple syrup or the fluid extract of liquorice. It is especially beneficial in purulent bronchitis, and I have found it to act nicely in all chronic coughs, particularly when the bronchial passages *only* are involved. I would not use it in phthisis pulmonalis."

Cocaine As Remedy for Morphia Sickness.—There is nothing, perhaps (says Dr. I. W. Chisholm, in the *Columbus Medical Journal*), that inspires a patient with such gratitude, confidence and respect for our profession, as when, suffering untold agony, he is, after receiving a hypodermic injection of morphia, in a few minutes entirely relieved of all pain. He feels as though translated from an abyss of woe to bask in a land of pure delight. But alas! after the lapse of a few hours the scene changes; his stomach is converted into a pandemonium. Now, if we are enabled to make the closing scene of the drama as delightful as the first, on the subsidence of all pain, we have conferred untold blessings on suffering humanity, and by a reciprocal reflex action on ourselves and the profession. After considerable experience and observation, I find by combining hydrochlorate of cocaine with the sulphate of morphia that no sickness follows the administration of the morphia—at least this has been the result of my experience from the administration of two hundred tablets of the foregoing combination, which I had prepared by Messrs. Parke, Davis & Co. The following formula is entirely adequate in quantity for general purposes, to be increased or diminished according to the exigencies of the case or the idiosyncracy of our patient:

℞. Morphia sulphate ..... ⅛ grain.
Cocaine muriate..... ⅛ grain.
M. Make tablet.

Pelvic Massage for Habitual Miscarriage.—Dr. Malengrau, (*Med. Week.*) has recently pointed out the interesting fact that habitual miscarriage is often due to local induration of the uterus or cicatrical contractions of the ligaments. These conditions may often be cured by rapid pelvic massage skilfully administered. In one case reported by Dr. Malengreau the treatment was applied during the early stage of pregnancy in a case in which a number of miscarriages had occurred in succession at the seventh month, and in which a contracted ligament was found. The contraction was overcome, the adhesions were broken up as the result of fifteen treatments, and the patient gave birth to a living child at the full time.

RETROSPECTIVE DIETETICS.

Dulcin for Diabetics.—Kobert (*Centralbl. F. Inn. Med.; Brit. Med. Jour.*) says that dulcin has a pure sweet taste, and excels saccharin in sweetness some two hundred to two hundred and fifty times. In structure it is an aromatic urea derivative—paraphenetol carbamide—and is allied to phenacetine. It it is soluble in eight hundred parts of water at 15° C., in fifty of hot water, and twenty-five of 97 per cent. alcohol. In diabetes it must be used in relatively small doses. Ewald has given it in doses up to one and one-half grains in a day. The author concludes that dulcin in reasonable doses is, so far as we know at present, harmless, and is an advance upon the use of saccharin, owing to its sweeter taste. It does not bring about any decomposition of the blood.

The Conjoint Use of Kumyss and Matzoon.—Dr. John H. Girdner writes thus to the *New York Medical Journal:* "I not unfrequently find persons who dislike kumyss on account of its acid taste, and who object to matzoon because it lies heavy on the stomach. This has led me to try a mixture of the two, and for some time I have used a mixture of equal parts of these two articles of diet, and with such satisfaction to myself and patients that I venture to call attention to it. I believe such a mixture is not only more palatable, but more nutritious than either preparation when taken by itself."

The Dangers of Meat-Eating.—According to Ritter (*Medical and Surgical Reporter*), the relation of the uric acid to the urea on an animal diet is 1 to 36; on a mixed diet, 1 to 27.5; on a vegetable diet, 1 to 22. From this it appears that a person subsisting upon a mixed diet eliminates 25 per cent. more uric acid than a person whose diet is vegetable in character, while the person whose diet is exclusive of an animal nature eliminates more than 60 per cent. more uric acid than a person whose diet is vegetable. This fact, taken in connection with the well-known prevalence of gout among beef-eating Englishmen, is very significant. The facts developed in the physiological laboratory are showing us more and more clearly, from year to year, the folly of subsisting upon a second-hand diet. The poisons derived from the flesh of the lower animals through flesh-eating are doubtless responsible for a vastly greater number of disorders than we are at present aware of.

Says the editor of *Modern Medicine:* Broadbent, the eminent authority on cancer, attributes cancer to the too free use of meat. He asserts that the excessive use of meat generates an undue power in the epithelium, which, in consequence, grows in instead of out, crowds upon and chokes the weaker structures beneath, and reaching the lymphatic channels, travels along them to the

lymphatic glands. Here the neoplastic cell obtains a firm foothold, and takes on so extensive development that cancer is the result.

Dr. Lamb, an eminent English physician, many years ago recommended a vegetarian regimen as a means of combating cancer, and reported so many cases that were favorably influenced thereby, that his treatment was adopted by his famous contemporary, Abernethy.

In a recent article, Dr. Waugh says he is convinced that excessive meat-eating is a cause of cancer. More than one eminent physician has ascribed cancer to the free use of pork. The relation of diet to chronic maladies is a subject which affords a most promising field for observation and experiment.

Vegetables and Fruits.—The editor of *Modern Medicine* is of the opinion that the bill of fare should be so arranged that the combination of food substances will harmonize with the action of the digestive organs upon those substances.

In applying this principle to vegetables, we find (he says) that the starchy vegetables are hard of digestion and that the large quantity of potash salts which they contain is a source of irritation to the stomach and interferes with gastric digestion. The coarse, woody structure of nearly all vegetables also renders necessary the retention of the digested mass in the stomach for a long time, thus lengthening the time of disintegration.

In the case of fruits, on the other hand, when ripe and properly cooked, we have substances which are digested and assimilated with very great ease. The time required for the digestion of cabbage is between four and five hours, while a ripe apple digests in one hour. If these two articles are taken into the stomach at the same time, both must remain there until both are digested, as they will become so intimately intermingled that they cannot possibly be separated. The apple, digested and ready for absorption, if not absorbed, undergoes fermentation. It is a principle which is constantly recognizable in relation to digestion, that the delay of the absorption of a food product after it has been digested, is certain to result in its deterioration through fermentation and decomposition, which are set up by the numerous microbes constantly present in the alimentary canal. The same is true if the digestive produce of one portion of the alimentary canal is not passed along with due promptness to another part of the digestive apparatus where its further elaboration is to take place preparatory to absorption.

The combination of fruits and vegetables is, for the reasons given, one of the most unsuited of all combinations for a person of feeble digestive powers. Persons with dilated stomachs are especially likely to suffer from the combination of vegetables with fruits, for the reason that with these persons there is a great delay of the food in the stomach in consequence of weakness of the muscular walls of the stomach, and hence inability of the organ to empty itself with due promptness.

It is quite clear to the writer that vegetables might be wholly eliminated from the bill of fare of human beings without any serious loss. Still, for healthy persons these esculents are sometimes valuable, as they afford an opportunity for an agreeable change in the bill of fare, and also in furnishing suitable bulk for the alimentary mass, which is likely to fail when a too concentrated diet is employed. This same difficulty may be avoided by the employment of grains in a more nearly natural condition, not excluding the woody outer portion of the grain, which seems to be intended as a natural stimulus to peristalsis.

Dietetics of Chronic Heart Diseases.—Dr. Glax (*D. Med. Zeitung*, No. 91, 1894) calls attention to the value of decreasing the ingestion of fluids in the management of chronic diseases of the heart, a view which was warmly advocated by Oertel and others, but which has been too much neglected. From a study of this question in a large number of cases, which extended not only over months but even four or five years, he comes to the following conclusions:

1. Restriction of the quantity of ingested fluids is one of the most important measures in the treatment of chronic heart diseases, and of itself is often sufficient to bring about compensation.

2. In many cases where cardiac stimulants have failed, their action will become apparent as soon as regulation of the quantity of fluid is carried out.

Care should be taken in reducing the quantity of water, as that might give rise to grave disturbances. Heart patients are especially prone to drink more than normal, which, by filling the stomach and pressing upon the diaphragm, obstructs heart action.

Lobar Pneumonia in the Aged.*—Lobar pneumonia in the aged differs so materially from the disease in adults as to be frequently overlooked. This is the more likely to occur from the fact that many old people suffer from chronic cough, and therefore this symptom does not attract the attention it would in the case of young persons.

Since broncho-pneumonia is the usual form of inflammation in the lungs of the aged, the probability of the occurrence of localized pneumonia is forgotten, the hurried breathing, slight cough, and rise of temperature which occur in these cases being attributed to senile bronchitis and cardiac weakness.

Another important circumstance which clouds the diagnosis of senile pneumonia is the latency of its symptoms. Compared in this respect with croupous pneumonia in adults, it is a giant shorn of his strength.

Since the modification of the symptoms depends upon senile involution, it may be helpful to study briefly the main features of this process.

One of the most important changes produced by functional "wear and tear" is seen in the blood vessels. The arterial walls gradually lose their softness and resiliency, even the finer arterioles and capillaries become somewhat hardened; the resistance in every channel by which arterial blood reaches the tissues is thereby increased, interstitial nutrition is impeded, atrophy and degenerative changes result, and the circle of life is a progressively narrowing one.

For a time simple hypertrophy of the left ventricle compensates for this growing resistance in the arterial channels, but finally sclerotic changes affect the central organ itself, the circulation gradually fails, the blood becomes more and more venous and surcharged with the products of tissue waste.

The lungs of old people also undergo marked anatomical changes. The air cells become gradually dilated, till they are double the size of normal cells. In addition, many of the cell walls rupture, having undergone degenerative changes which render them incapable of distension. Such lungs are permanently emphysematous, incapable of full inflation, and defective as organs of hematosis. It must be observed that the size of the lungs diminishes in old age, notwithstanding the occurrence of vesicular emphysema, since atrophy and rupture predominate over dilatation.

The thoracic walls, in consequence of anchylosis of the separate pieces of the sternum and ossification of the costal cartilages, lose their mobility and accommodate themselves to the atrophied shriveled lungs.

In consequences of these changes, the vital capacity of senile lungs diminishes year by year. The hourly exhalation of carbon dioxide falls from about one thousand three hundred cubic inches in adults to six hundred and seventy inches in octogenarians.

Degenerative changes take place in the cerebro-spinal and sympathetic nervous systems which impair the mutual sympathies of the various parts of the organism. These circumstances so modify the symptoms of disease in aged persons, that they may be said to fall sick in sections. "The chief characteristic of the diseases of old age," says Seidel, "is their isolation." The life of the aged, says the same author, can of course be destroyed by the same causes that snap the thread of a younger life, yet old people are less susceptible, as a rule, to the action of contagion, and yield to them only when present in overwhelming quantity. This is to be explained by the fact that notwithstanding the weakened powers of resistance of the senile organism, the contagion finds here an unsuitable

* A lecture delivered at the Gross Medical College, Denver, Col., by William John Rothwell, M.D., professor of Physical Diagnosis and Diseases of the Chest.

soil for its development. The senile organism is loaded with excrementitious products, which are probably inimical to the development of disease germs. At any rate, we seldom see a typical inflammatory condition, accompanied by inflammatory fever, but rather the nervous, asthenic, torpid forms, in which the symptoms recall those of poisoning of the central nervous system much more than an infection.

With these facts before us, let us study the pneumonia of old age.

Its morbid anatomy differs greatly from that of adult pneumonitis, but only a few salient points will be mentioned. The morbid process usually begins in the upper lobes, and extends downwards. In adults the reverse is the case. Gangrene of the lung is much more frequent than in middle life. This is due to the general failure of nutrition and too weak capillary circulation in the lungs themselves. For similar reasons resolution proceeds slowly, and abscesses of the lungs are of common occurrence. Bronchitis and bronchiolitis are invariably associated with senile pneumonia, circumstances which render the differentiation between the catarrhal and croupous forms of the disease somewhat difficult. The pulmonary pleura is much less frequently inflamed than it is in adult life. Double pneumonia is quite frequent. The disease is prone to recur if life be prolonged, for recovery is seldom complete, areas of engorgement remaining behind, and keeping up a constant irritation in the lung tissues, which readily runs into inflammation.

Etiology.—All that is included in the terms climate, weather, habits, occupation and hygiene is of equal or rather greater etiological importance than in younger subjects. The various degenerative changes in the lungs, heart, blood vessels and kidneys, to which we have already referred, are so many predisposing causes. Infective diseases have little or no causative agency. Traumatism is a very active etiological factor. Fracture of the ribs or any of the long bones is apt to be followed by pneumonia, while injury in and about the hip-joint is proverbially so. The pneumonia following hip-joint injury is not hypostatic in its origin, for it frequently supervenes in a few hours after the receipt of the fracture or dislocation.

Symptomatology—Senile pneumonia often presents almost no symptoms of importance. The patient may go about as usual, suffering no apparent inconvenience, and suddenly go to bed from exhaustion and as suddenly expire. Latency is the characteristic of the disease. This latency depends upon those degenerative changes in the nervous system already referred to, which prevent the reciprocal reflexion of disturbances from organ to organ which belongs to middle life. Chill or rigor, the usual symptom of lobar pneumonia in adult life, is rarely present, but chilly sensations or shivering occur in about one-half of the cases. The sensibility of the senile organism is so obtunded that it does not react quickly to the irritation of bacterial ptomaines on the nerve centers.

We have already observed that the pulmonary pleura is seldom inflamed in this disease, and consequently the severe pleuritic pains of adult pneumonia are of rare occurrence in the senile form of the disease. Even if pleuro-pneumonia does occur the pain is never intense or definitely located, but is referred to the epigastrium, the hypochondria, the nipple, or even the opposite lung. Cough is so slight that the patients themselves do not notice it, and what little there is may not attract the physician's attention. Since a slight bronchial cough is common in old people, the insignificance of the cough is another illustration of the insensibility of the senile nervous system.

The pulse does not furnish as reliable indications of the severity of the disease as the normal pulse of middle life. The hardened arteries give to the pulse of senility an abnormal sense of fulness and tension. Irregular cardiac action is also common, rendering the pulse intermittent, remittent, abnormally slow or frequent. From these considerations it is evident the pulse is an untrustworthy guide in the disease under discussion.

Expectoration is slow in appearing. When it is established its character resembles the sputa of bronchitis rather than pneumonia. It is frothy, gray, opaque, or viscid. It may occasionally have a reddish tinge, but the characteristic rusty sputum of adult pneumonia is seldom or never seen. Expectoration is always difficult, and in the more masked forms of the disease may be entirely absent. Prune juice expectoration appears early, for there is a rapid transition of stages from engorgement to gray hepatization and purulent infiltration. The sputa are said to contain exceptionally large quantities of sodium chloride.

The temperature does not rise rapidly after the initial chilliness. Several hours may pass before fever is perceptible. In the algid form of the disease, after attaining a maximum of 103° F., the temperature may suddenly drop to or below normal, and so remain. A sudden defervescence of this character, accompanied by prostration, is of very bad augury. In aged persons there is a marked difference between the surface and the central temperatures. The poor capillary circulation interferes with the uniform distribution of heat. It therefore accumulates in the central organs. An axillary temperature of 101° F., with a temperature of 103° F. in the rectum is often observed. If thermometrical observations are made in the rectum, instead of the axilla, the central temperature will be found to correspond more closely with that of adults. The degree of surface heat is, on the contrary, uncertain and misleading.

The respirations are of course increased in frequency. When we consider the diminished capacity of the lungs, the lessened mobility of the chest wall, the vesicular emphysema and the thickened condition of the bronchial mucosa, we should expect great frequency of the respiratory movements and intolerable dyspnœa. The fact is, however, that old persons with pneumonia complain less of dyspnœa than younger ones. Venosity of the blood is with them a permanent condition, and the respiratory centers are accustomed to imperfectly decarbonized blood.

Headache is more frequent, severe and persistent, than in younger subjects. Delirium is also frequent. It is apt to be low, muttering and typhoid in character.

Owing to the normal cardiac insufficiency of old age, venous engorgement of the liver, intestines and kidneys plays a prominent role in senile pneumonia. Jaundice, constipation or diarrhœa, anorexia and deficient urinary excretion are marked features of the disease. Many consider the jaundice of hematogenous rather than hepatogenous origin—a change wrought in the blood by the agency of the ptomaines. But since this whole symptom complex is explicable on the theory of venous engorgement from cardiac weakness, the latter view of their pathology seems the more reasonable one.

The truth often lies so near as to be overlooked.

Physical Diagnosis.—Physical exploration of the chest does not elicit as positive information as in the pneumonia of younger persons. The normal physical signs of senile chests are modified by ossification of the central cartilages, rigidity of the bronchial tubes and rarefication of the lungs.

Percussion.—The percussion note in old persons is abnormally resonant. In pneumonia, therefore, quite considerable solidification has to take place before dullness becomes distinctly audible. In the congestive stage percussion furnishes no information. Complete dullness or flatness is never present, even with the most pronounced hepatization.

Auscultation. In consequence of enlargement of the air vesicles there is weakness of the vesicular element of the respiratory murmur. This part of the murmur is enfeebled, while the bronchial factor is intensified from rigidity of the tubes. The normal auscultatory murmur of old age is, therefore, the broncho-vesicular of middle life. Tubular or bronchial breathing, consequently, develops early in the second stage of the disease, and becomes very intense in complete hepatization.

The crepitant râle, which is so characteristic of commencing consolidation in croupous pneumonia of maturity, is almost invariably absent in old age. If the crepitant râle of adult pneumonia be caused by a sudden distention of the partially agglutinated walls of the air cells at the end of the inspiratory act, then its absence in senile

pneumonia can be accounted for by the increased size of the air cells, and impaired elasticity of their walls. Where senile emphysema is but slight, the râle may be heard, where it is marked, crepitation is absent. Moist râles, both large and small, are numerous on account of the greater prominence of bronchitis.

Palpation.—Vocal fremitus is increased in the second stage.

Inspection shows the respiratory movements increased in frequency and diminished in amplitude.

Prognosis.—The prognosis is grave in proportion to the age of the patient. Cruvelhier calls it the scourge of old age. A single pneumonia confined to the lower lobe, with a rectal temperature of not above 103° F., and a pulse rate of 120 per minute, is of favorable prognosis. Double pneumonia is frequent and fatal. Unfavorable omens are a sallow face, cold and clammy skin, delirium, somnolence or coma, and irregular action of the heart. Death usually results from heart failure and œdema of the lungs.

Treatment.—Whatever doubt may be entertained as to the propriety of using cardiac depressants in the congestive stage of adult pneumonia, there can be no difference of opinion as to their harmfulness in the senile disease. With a venous system already too full of blood, and the heart struggling to force the current of life through hardened and contracted arteries, aconite, veratrum viride and tartar emetic can only do harm. We must follow a stimulant and sustaining plan of treatment. Nutritious and easily digested food is to be frequently administered. Inhalation of oxygen should if possible be early employed. The heart should be sustained by alcohol, digitalis, and the preparations of ammonia. Digitalis should be guarded with nitro-glycerine to prevent contraction of the arterioles. Strophanthus does not contract the arteries, and is therefore preferable to digitalis if given alone.

Should we ever bleed in senile pneumonia? Consider the state of the circulation. The veins loaded with blood, the right ventricle struggling to pump this almost stagnant and useless fluid into and through the lungs. If this ventricle fails for an instant, death is imminent. How can we relieve the ventricle of its extra work? Open a vein and let the excess of venous blood escape. This procedure seems to me clearly indicated. In this case the loss of blood would not depress, but relieve the circulation. We all feel too much the loss of a little venous blood. It is the loss of arterial blood we should dread. I have seen venous hemorrhage from the bowels benefit typhoid patients very decidedly. A free expectoration of rusty sputum in croupous pneumonia is of rather favorable prognosis. Our worst cases of phthisis are not those which have a slight hemoptysis occasionally. Stimulants and digitalis goad a flagging heart to greater work. The loss of a little venous blood would leave the heart less work to perform. Choose whichever procedure seems to you the more reasonable.

The Dangers of Antitoxin.—What seems to us the strongest argument yet brought against the employment of antitoxin as a specific for diphtheria, is conveyed as follows in a recent communication to the *Medical Journal*, by Dr. Samuel Treat Armstrong:

Those that heard Dr. Winters' very comprehensive criticism of the value of antitoxin serum in diphtheria, at the meeting of the Academy of Medicine on the 4th inst., cannot but feel that an important factor has been overlooked in the consideration of the treatment with this substance; and that factor is the globulicidal power of alien serum on the blood of an animal into which it is injected.

In a monograph on transfusion of the blood, published in 1875, L. Landois reported that the serum of the dog, the horse or the rabbit, dissolved the red globules of other animals with great rapidity. And in the last edition of Professor Stirling's translation of Landois's Physiology, there is the statement that, if the serum of one animal is transfused into an animal of another species, the blood corpuscles of the recipient are dissolved, and if there is a general dissolution of the corpuscles death may occur.

Dr. G. Daremberg (*Arch. de Med. Exp.*, 1892) stated that his experiments showed that, while the serum of an animal of one species did not destroy the red corpuscles of an animal of the same species, it rapidly destroyed the corpuscles of an animal of another species. If warmed to from 122°to 140°F., or exposed to the light for several days, the serum lost this globulicidal power.

G. Hayem, in his monograph on the blood, states that the serum of the ox more or less profoundly changes the blood of the dog, producing in it small emboli that may involve the functions of organs or even life itself. Microscopally, these emboli consist of degenerated elements of the blood, the hemotoblasts and the red and white corpuscles being altered by the serum. He specifically states that horse's serum produces phenomena similar to those caused by ox's serum. He further states that the urine is habitually suppressed and the kidneys are congested.

The tendency of alien serum to produce emboli has also been noted by C. Lazet (*La France Méd.* 1891), who found that if the serum of a dog was mixed with the blood of a man, or *vice versa*, there were produced more or less pronounced alterations, and solid concretions were formed from the metamorphosed elements.

The author believes that it was this tendency of alien serum to form emboli, that caused the death of the seventeen-year-old girl in Brooklyn. And this toxic influence of serum *per se* explains all the unusual and untoward phenomena that have been reported in diphtheria patients treated by antitoxin serum. The post-mortem lesions found in the five-year-old child whose clinical history is reported in the *British Medical Journal* for March 30th, correspond throughout with those observed by Hayem in dogs that died from the effects of alien serum injections, though the animals were given forty times as much serum as the human being.

Empiricism that has bacteriology as its sole foundation is as condemnable as any other form of that cult, and as prognosis is not yet a lost art, it seems absurd that the medical profession should accept the dictum that all persons whose nasal or faucial secretions contain the Klebs-Loeffler bacilli, should be injected with antitoxin serum. There are many recorded instances in which the bacilli have been found in the secretions of healthy individuals, and there are some recorded instances in which these bacilli have not been found in patients who clinically presented the phenomena of the disease, even to the secondary paralysis.

While antitoxin serum probably has a field of usefulness, it is evident that nice discrimination is necessary to designate wherein it lies.

Typhoid Bacilli Conveyed Through the Air.—Various experiments and observations have been made by Uffelmann (*Wien Med. Presse*), with a view to ascertaining whether typhoid bacilli are capable of being transferred through the air. The researches previously carried out lacked two important considerations, namely, the positive identification of the typhoid bacilli, and the duration of their vitality in a dry atmosphere. The author fulfilled these conditions scrupulously, and arrived at the conclusion that typhoid bacilli are conveyed to the air in a dried state from garbage and clothing, and that the bacilli retain their vitality for from several days to two weeks.

Compound Tincture of Benzoin in Surgery.—Dr. J. L. Garland Sherrill (*Amer. Therapist*) highly recommends compound benzoin tincture in cases of injuries about the hands, especially those by machinery. The manner of application is as follows: After careful cleaning and disinfection of wound, and complete arrest of hemorrhage, a layer of absorbent cotton is placed around the wound, over which the tincture is poured until the cotton is saturated. This forms an air-tight aseptic coating after evaporation of the alcohol. This dressing is claimed to be very advantageous in the practice of the country physician, because it need not be frequently changed, and can sometimes be left on for a week without inconvenience. If it becomes loose, a little more benzoin tincture may be added by the patient.

MISCELLANY.

—Advanced kidney disease is often first discovered by ophthalmoscopic examination.

—Twenty-five per cent. of the Johns Hopkins Medical School students are now women.

—The unpleasant taste of iodide of potassium is completely neutralized by the addition of a little soda water.

—The National Society of Electro Therapeutics will meet in Boston, September 18th and 19th. Many valuable papers have been promised.

—A spoon in a glass filled with hot water prevents the breaking of the glass, because the metal rapidly absorbs a large part of the heat.

—Prof. Keen says that one-fourth of a drop of carbolic acid every hour for a few hours will check the nausea and vomiting following the administration of ether.

—A statue to Lavoisier is to be erected in Paris. Many subscriptions in aid of its erection have been obtained from professors and students in German universities.

—A Homœopathic college has been established in the City of Louisville, the fifth college in this city. The patients in the city hospitals are divided equally among the colleges.

—Compulsory vaccination is to cease in the Canton of Berne, Switzerland. An election just held showed that the anti-vaccinists cast 26,238 votes against 24,543 by their opponents.

—Unequal dilatation of the pupils is regarded by Dentree as a sign of great value in the diagnosis of pulmonary tuberculosis. It is present, he says, in the majority of cases of this disease.

—The medical profession of Vienna proposes to commemorate the fiftieth year of the reign of the Emperor Francis Joseph of Austria by the foundation of a hospital for children, with a capacity of 1,000 beds.

—England (says the *Medical Record*) has but 552 medical students; there are 8,000 in the German universities but the United States have 13,000. We could loan England a few thousand and have plenty to spare.

—According to *Gaillard's Medical Journal*, sudden deaths of aged bicyclists from heart disease are beginning to be reported. Aged people, and those who are afflicted with heart disease, should not indulge in this exercise.

—Recent reports indicate that Prof. Huxley is still in a critical state of health, although slowly improving. It is about three months since his illness began with an attack of influenza, from the effects of which he is now suffering.

—The next international congress will be held in Moscow, in 1896. Prof. Dr. J. Th. Klein, of the Faculty of Medicine, will be the President. The local committee of organization has chosen Count P. A. Kapnist as its President.

—Dr. Joseph Price says: "I have done a hundred abdominal sections consecutively without a coated tongue and without a pulse above 100, except in cases that bled. This was done by clean surgery, without chemicals of any character."

—A buried city, like that of Pompeii, is being excavated in Central America, at the foot of the volcano Agua. Pottery, fine glassware, jewels, flint instruments and skeletons over six feet long have been taken out at depths of fourteen to eighteen feet.

—Having his vermiform appendix removed has been rather a good thing for Oscar Tully, of Yardville, N. J., for the obstruction was found to be a large pearl, which he must have swallowed in an oyster, and for which he has refused two hundred dollars.

—According to a correspondent in the *Scientific American*, bean leaves bruised and applied will afford instant relief and arrest any further progress in cases of poisoning from rhus tox. or poison ivy. A decoction of dried leaves proved equally satisfactory.

—Osler must have had an unfortunate experience in the treatment of pneumonia to have reached the conclusion that it is a self-limited disease, not influenced by medicine and not cut short by any means at our command. Such has not been the general experience of our profession.

—So many gods, so many creeds—
So many paths that wind and wind,
While just the art of being kind
Is all that the sad world needs.
—Ella Wheeler Wilcox, in June Century.

—Professor Karl Ludwig, the distinguished naturalist and physiologist, died at Leipzig, April 24th. Born in 1816, he became Professor of Anatomy and Physiology at Zurich in 1849, passing thence to Vienna and Leipzig. The Physiological Institute of Leipzig, built under his direction, was the first of the kind.

—Dr. Trousseau, Surgeon to the Quinze-Vingts Eye Hospital, gives the preference for innocuity to incandescent light, and assigns the second place to petroleum lamps, which may advantageously be employed for ordinary purposes. He condemns in *toto* the light yielded by oil, and more particularly that given by candles. The gas-jet is the most hurtful to the eye, its only recommendation being its convenience.

—Dr. Westbrook Farrier, of Biddeford, Me., is in active practice at the age of ninety-eight, and is in the habit of visiting his patients regularly on a bicycle. He attributes his exceptional vigor at this advanced age to the use of wintergreen tea, of which he is an ardent advocate. In the same State, Dr. Baynes, of Rockland, is still practicing at the age of ninety-nine. He is a vegetarian, and strongly opposed to tea, coffee, tobacco and liquors. His teeth are almost perfect, and his sight is excellent. For the last fifty years he has slept, when at home, on a reclining chair of iron framework, on which he spreads a few comforters and blankets.

—Medical ethics and medical science (*Philadelphia Polyclinic*), cannot be separated. If quackery and charlatanism and self-seeking are allowed to become dominant in medical associations, and to win the rewards of honor which should be bestowed upon opposite qualities, those who enter the ranks of the profession will be encouraged to pursue the wrong and deterred from following the right. Under such circumstances greed and untruth must come to the front, and science cannot flourish where this is possible. In holding up the standard of medical ethics, therefore, Pennsylvania has been working in the cause of medical science, as well as in the cause of morality.

—After all the recent abuse of that "child of the rock and of the hoary sea," the oyster, as an infection-carrier and as a "scavenger of the sea," it will be consoling next September to recall the good words spoken for the bivalve at a recent séance of the Paris Academy of Medicine. M. Chatin stated that he had frequently pointed out the richness of oysters in bromin, iodin and fluorin. He wished now to make known the great quantity of phosphorus which oysters contain in an organic, and consequently, assimilable combination. The Portuguese oysters are the richest of all in phosphorus. Each of them contains very nearly one-twelfth of a grain of phosphorus; ordinary oysters have about one-third of this amount. These mollusks are equally rich in iron, their brown color being due to diatoms. A great number of infusoria on which the oysters feed are filled with these diatoms, which are so rich in iron that the ash from burning them is of a deep red color. M. Gautier remarked that all sea food is very rich in phosphorus in the organic state; thus cod liver oil contains phospho-glyceric acid besides its alkaloid. M. Le Roy de Mericourt stated that he had a long time ago indicated the service rendered by oysters in the alimentation of persons attacked with chronic diarrhœa in tropical countries.